a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

SEPTEMBER, 1959

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page 89

What finishers are doing about creases
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How and when do mills strip wool cards?
page 98

Negative fibers attract positive starch
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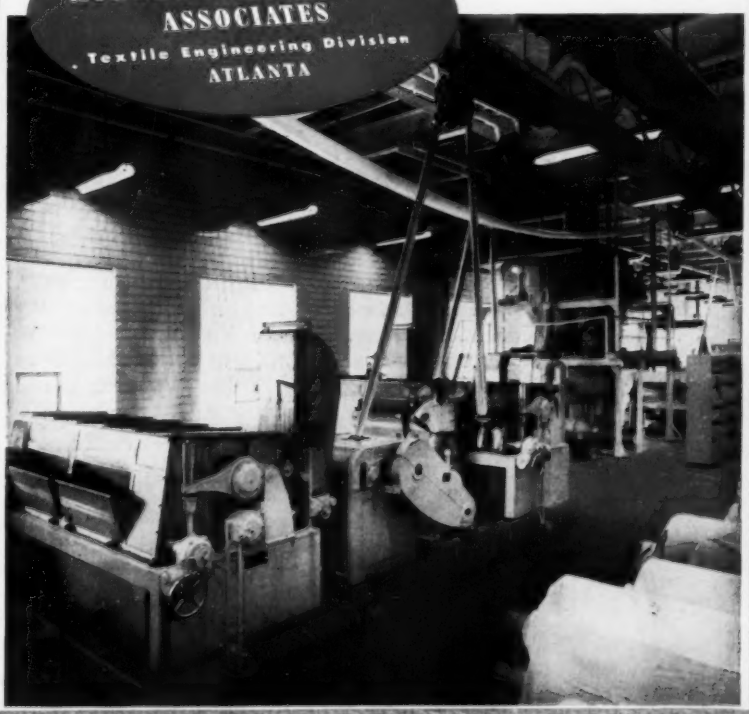
Take the guesswork out of profits
page 109

Textile Engineering
BLEACHING & FINISHING

Continuous processing in all phases of textile finishing has already proved its ability to cut production costs, increase production and overall profit. Many leaders in the bleaching and finishing field have already tooled up to engage in this faster, more profitable form of production. On hand, to blueprint the modernization, the production layout, and the new buildings that house many of the nation's most modern operations, have been the skilled planners in the Textile Engineering Division of Robert and Company Associates. An engineering survey of your existing operations will enable you to better judge your expansion and profit potential, as our more than 40 years experience in all phases of textile engineering has helped others.

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA



University Microfilms
313 No First St
Ann Arbor Mich
4

Next month—Special feature on wash-and-wear

DIEHL* power transmitters drive new-type shuttleless loom

The spectacularly new, compact, low silhouette shuttleless looms, recently introduced by Draper Corporation, Hopedale, Massachusetts, are shown on the line at Pepperell Lindale. Among the advantages claimed for the new design looms are . . . increased production speeds . . . economy . . . easier operation by weaver and fixer . . . and a considerable reduction in noise level.

To drive this new loom with maximum efficiency and utmost reliability, DRAPER selected the DIEHL Power Transmitter . . . an inverted-type high inertia motor combined with a fast, positive, clutch-break mechanism. The motor provides "stored energy" for smooth, fast starts and positive picking . . . maximum inertia with minimum size. The clutch-break assembly is removable as a unit for maintenance, without disconnecting the motor from the loom frame, and features a clutch-actuating bearing mounting which assures full self-alignment of bearing for maximum life.

DIEHL Textile Motors and Power Transmitters can increase production and efficiency—at lower operating costs and less downtime—in your mill. Specify them for your textile machinery.

*A Trademark of DIEHL MANUFACTURING COMPANY

Diehl*

DIEHL MANUFACTURING COMPANY

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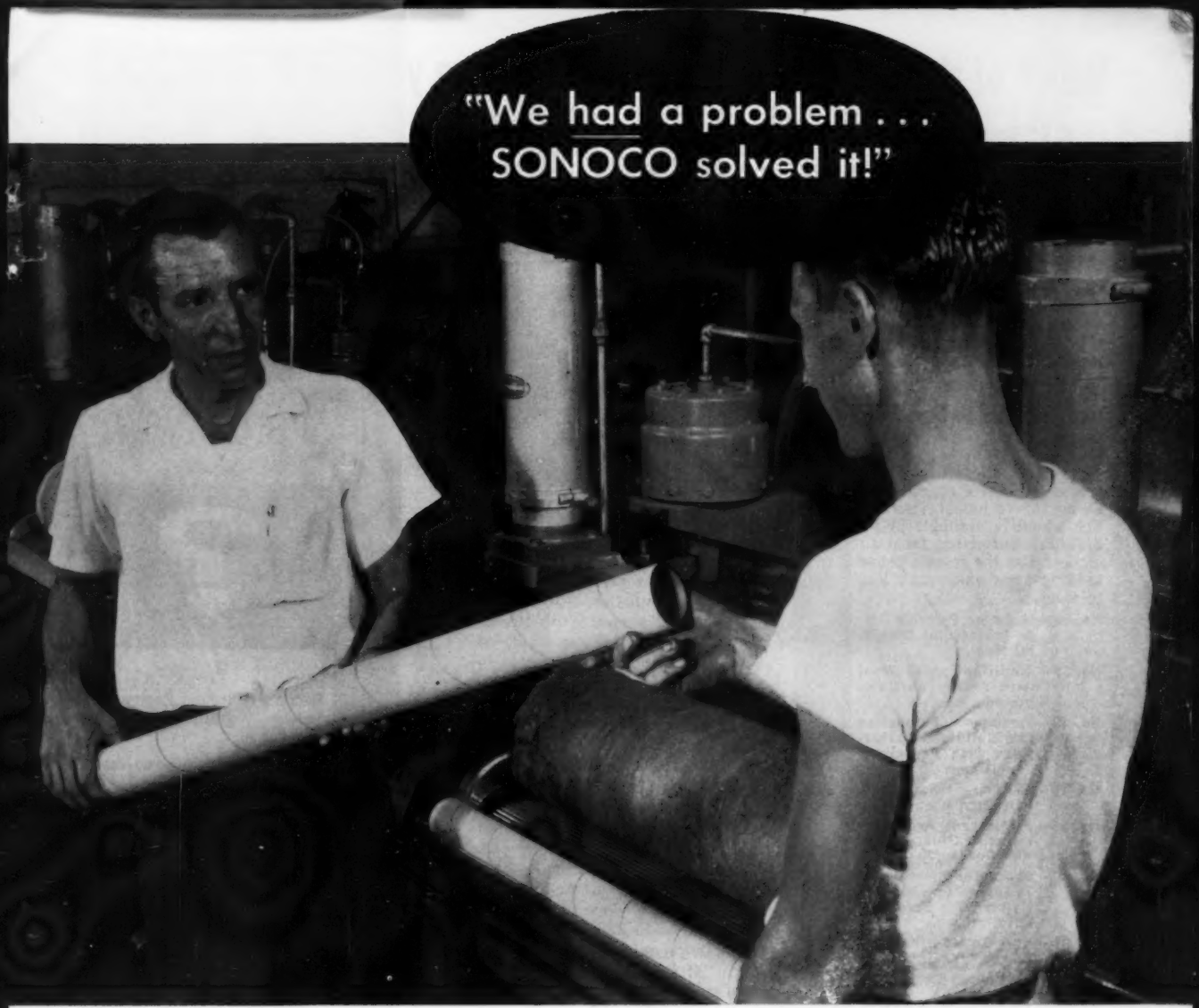

THE NEED: An improved, lower cost picker lap tube

High quality picker lap tubes are essential in the trouble-free carding of natural and synthetic fibers. For years, the industry used convolute tubes with sulphur treated ends for durability. While this type served the purpose, prolonged use caused the hardened ends to chip off. In some cases, this condition resulted in damage to the card clothing.

Sonoco sales engineers, through research sought a solution to this problem. As a result, a new type, lightweight *spiral* picker lap tube has been developed, tested and proved. It lasts up to three times longer than the old type! Sulphur-treated ends have been eliminated! And, *the cost is nearly 40% less!* That's progress . . . Sonoco-style!

Only Sonoco with 60 years' experience, plus modern research and completely integrated manufacturing facilities, could solve this problem quickly. It is typical of countless cases where Sonoco technical and production "know-how" has benefited the industry. *Let Sonoco experience help you!*

sonoco

Our 60th year
1899 - 1959

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Products for Textiles

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You can have 'em!
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Years of experience in textile processing have produced a library of technical information which is available in individual bulletins, free on request. Use the coupon below to let us know which you'd like to receive.

- **No. 29 — Hydrogen Peroxide Dry-In Process for Bleaching Wool.**
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- **No. 60 — Successful Bleaching of Types 670 and 200 Nylon With Peracetic Acid.**
- **No. 61 — Knit Goods Bleaching Range.**
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And Arnel, too, for that matter. As well as rayon-acetate, and other synthetics.

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We say "many" synthetics, because we can't list them all here. If you're having trouble bleaching any particular one, why not write us? We'll tell you what we've done to date, and what we might be able to work out for you.

If you're finishing nylon, start off by getting your free copy of Becco Bulletin No. 60 —"Successful Bleaching of Types 670 and 200 Nylon with Peracetic Acid."

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Please send me a copy of your free Bulletin No. 60—"Successful Bleaching of Types 670 and 200 Nylon with Peracetic Acid."

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Gentlemen:
Please tell me more about your Four-Fold Engineering Service.

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Textile Industries
Formerly "COTTON"
SEPTEMBER 1959 VOL. 123, NO. 9

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Photo courtesy The Graniteville Company, Graniteville, S. C.

It gives gloves better "hand"

Looks like suede—feels like suede—but the work glove above is actually made of cotton. What gives this glove its unique suede-like appearance and better "hand"? Answer: it was knife-coated with a compound based on PLIOVIC AO, Goodyear vinyl chloride copolymer dispersion resin.

In addition to its distinctive texture, this new material will wear three to four times longer than uncoated fabrics and has exceptional "gripping power." Called Duro-Suede, it is now being produced for work gloves—may soon be used in work shirts and jackets, sports clothing and various industrial applications.

PLIOVIC AO was chosen for its low fusing temperature, excellent plasticizer compatibility, good viscosity characteristics and film texture. All of these properties contribute to ease of processing, efficient operation and outstanding product quality.

Want to add sales-building new properties to your product? PLIOVIC AO may help you do it. Write for complete information—including latest *Tech Book Bulletins*—to: Goodyear, Chemical Division, Dept. I-9439, Akron 16, Ohio.

GOODYEAR

CHEMICAL DIVISION

Pliovic—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

WITH Bijur Automatic Lubrication as an integral part of your machines, you benefit from continuous peak production. Plant after plant reports increased out-put and greatly reduced maintenance costs with Bijur-equipped machines. Costly downtime for lubricating by hand is eliminated. Every bearing is metered the proper quantity of oil at predetermined intervals. Work spoilage and bearing troubles caused by over-lubrication are avoided. Fire hazards are reduced. Personnel accidents are prevented.

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Bijur designed into your machines now automatically assures satisfaction. It makes sense . . . and dollars, too! Why not write today for literature and engineering information?

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LUBRICATING CORPORATION
Rochelle Park, New Jersey
Pioneers in Automatic Lubrication

1843A

SHORTS & REMNANTS

► Only 98 more shopping days till Christmas. And give textiles.

Wool Over Their Eyes

AP reports from San Angelo, Tex., that Miss Wool isn't a Miss any more, and that officials of the National Wool Pageant there are wondering what to do next. The young lady selected revealed that she is now a Mrs. At the latest report, the officials were uncertain whether to replace her with the runner-up, or to let her reign as Mrs. Wool.

► And speaking of names, Norman Shavin reports in the *Atlanta Journal* that rock 'n' roller Fabian has had his name changed in the film "Hound Dog Man" from "Cotton" to "Clint" to avoid offending nylon makers. Bet they'd have been inconsolable.

Largest "Textralized" Producer

"Being the largest producer of 'Textralized' nylon in the world, we were very interested in ["Setting Textured Nylon Sweaters," TI for May, 1959, pages 168-169].

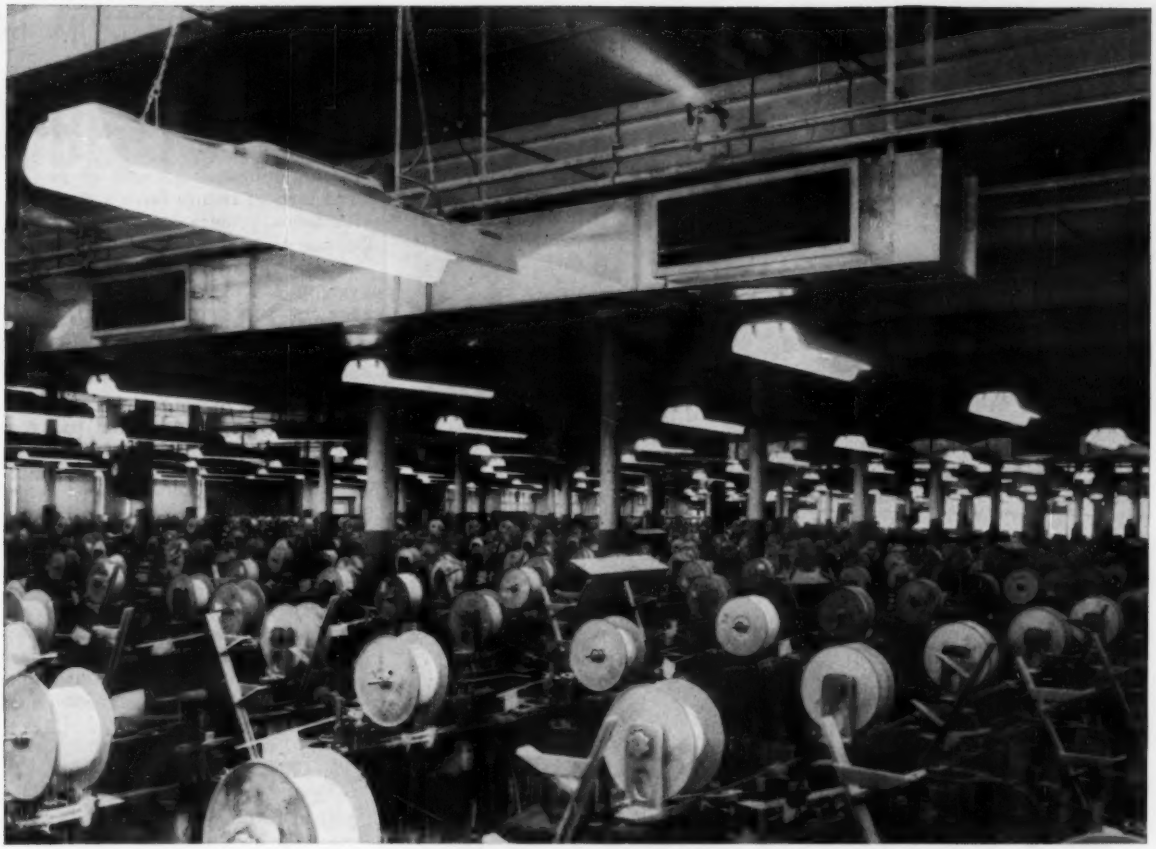
"We would very much like to receive 25 copies of that particular section. I believe it would help us and some of our present customers, to say nothing of the tremendous value it would be to our future customers."

AL PRICE
Tech. Sales Mgr.
Rose Mills, Inc.
Philadelphia, Pa.

Award for TI

The Writers Guild of America has selected the article, "What Reports Does Management Need?" by Fred H. Drewes, which appeared in TEXTILE INDUSTRIES for April, 1958, as the most outstanding article in the educational and promotional field in textile publications for 1958. Mr. Drewes, who is co-manager of Palmetto Yarn Mills, Pageland, S. C., was also awarded a certificate of merit for outstanding work in journalism in the textile industry over the past year.

► A postal card with this pessimistic little message came across my desk



Providence Braid Company, Providence, R. I. showing ductwork, air outlets and atomizers.

Is your humidifying system providing maximum cooling?

At Providence Braid Company an Amco Unit Dry-Duct system operates to control humidity precisely and, at the same time, to provide maximum cooling commensurate with the required evaporation.

As moisture from atomizers in a humidifying system evaporates, heat is absorbed and the air temperature is lowered. This cooling can be increased substantially by a positive ventilating system (such as an Amco Unit Dry-Duct system) which introduces fresh air uniformly throughout the mill room, thereby deliberately increasing the demand for evaporation in order to lower the temperature and maintain the selected humidity.

A unit dry-duct system consists of one or more air handling units, air ducts, room atomizers and pressure type window vents. When cooling is not required, recirculated air (instead of fresh air) is drawn into the unit, filtered and heated when necessary, then distributed through the ducts back into the room.

Amco's Unit Dry-Duct system is only one of several types of textile mill air conditioning systems which Amco engineers, manufactures and installs. For expert help, based on more than 70 years' experience, next time call on Amco.

◀ In same mill room, humidity control in foreground — window exhaust vents in background.

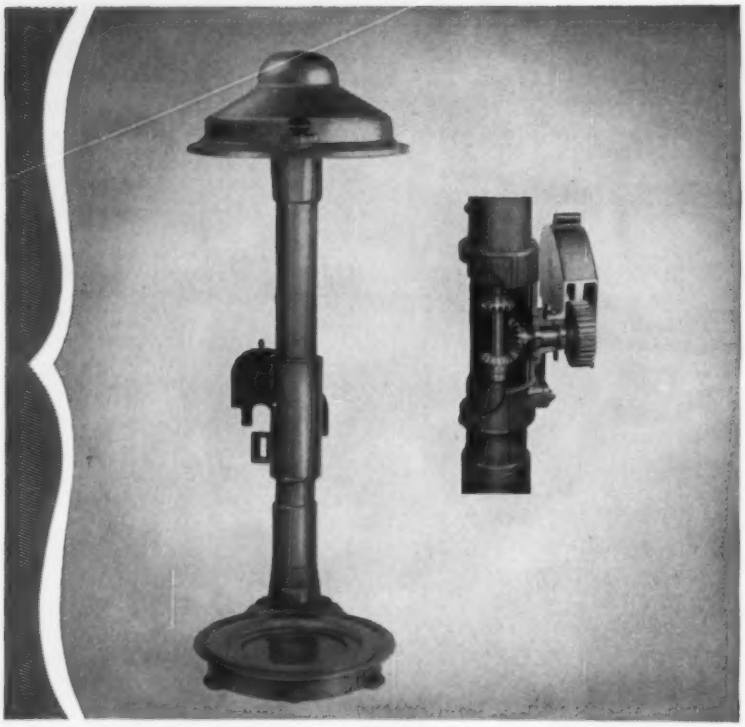
AMCO

SINCE 1888

AIR CONDITIONING EQUIPMENT

AMERICAN MOISTENING COMPANY, CLEVELAND, N. C.

Branches: Atlanta, Ga. • Providence, R. I. • Toronto, Ont.



SOUTHERN STATES' NEW COILER LINE HAS ALL ENGINEERING AND DESIGN FEATURES WANTED BY MILL MEN

To provide mills with a premium-quality coiler, every engineering and design feature wanted by mill men has been included on the new Southern States Coilers.

A new center adapter (see cutaway view above) permits the stand, head, and base to swivel as a unit within the adapter collar. The coiler may thus be offset for can diameters up to 20 inches and still maintain a straight gear drive take-off for coilers of all makes.

Southern States Coilers are designed for direct attachment to any make of card, left or right hand. Installation is rapid and economical. Other outstanding features of the Southern States Coiler include: ball bearing throughout—head, shaft, cantable ... cut tooth gears throughout ... tubular steel stand ... precision-ground calender rolls ... self-aligning pillow blocks on upright and calender roll shafts ... fully adjustable can table ... quickly detached coil spring roll-loading device ... and many others fully described in our Technical Bulletin 205, available from your Southern States representative or by mail direct from us.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

(from page 6)

the other day: "This world does not have an unlimited amount of space for an unlimited amount of people. The laws of nature have a statute of limitation; there are those who choose to ignore them, for which all of us have to pay." William R. Sullivan of Los Angeles sent it, though I'm not sure why. Maybe if we go on a diet it will help to make more room.

"My Private Secretary" Helpful

"Thank you indeed for the five copies of 'My Private Secretary.' These are going to be quite helpful to us."

C. S. HENEREY
President
Bamberg Textile Mills
Bamberg, S. C.

► "My Private Secretary" is available at 50 cents per copy with a subscription to TI. It's a memorandum book, which includes helpful information on all phases of cotton mill operation.

Likes Mr. Arden

"Please permit me to congratulate you upon the publication of the article 'War on Unions' by Ringgold Arden, in your April 1959 issue . . . I hope that it will be read by a large number of people."

ROBERT A. MORGAN
Textile Engineer
Rome, Ga.

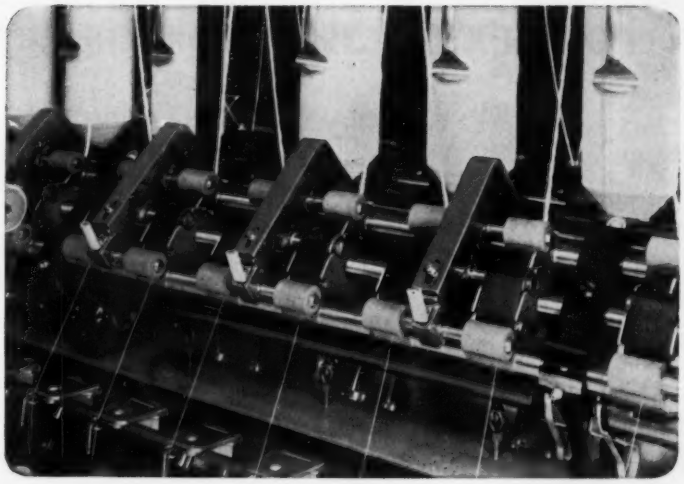
Industrial Textiles Section

This filly is holding a filter fabric woven by U. S. Rubber Co. of Union Carbide Corp.'s dynel fiber. It's used

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

PosiWate Ball Bearing Top Roll Suspension eliminates all cap bars and the need for top roll oiling. All three lines of top rolls have double-row ball bearings; heavier weighting can be handled when required. Weight distribution is positive. Hooks, short springs and other gadgets are not used. Roberts Ball Bearing Bottom Rolls with EvenGrip Fluting are also available.



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MODEL M-1

and changeover modernization for any make of frame

ARROW M-1 SPINNING FRAMES

for cotton and for synthetics 1½ to 3¼ inches long

PosiWate Top Roll Suspension

UnaRing Balloon Control

EvenGrip Fluted Bottom Rolls

Roberts Supreme Ball Bearing Spindles

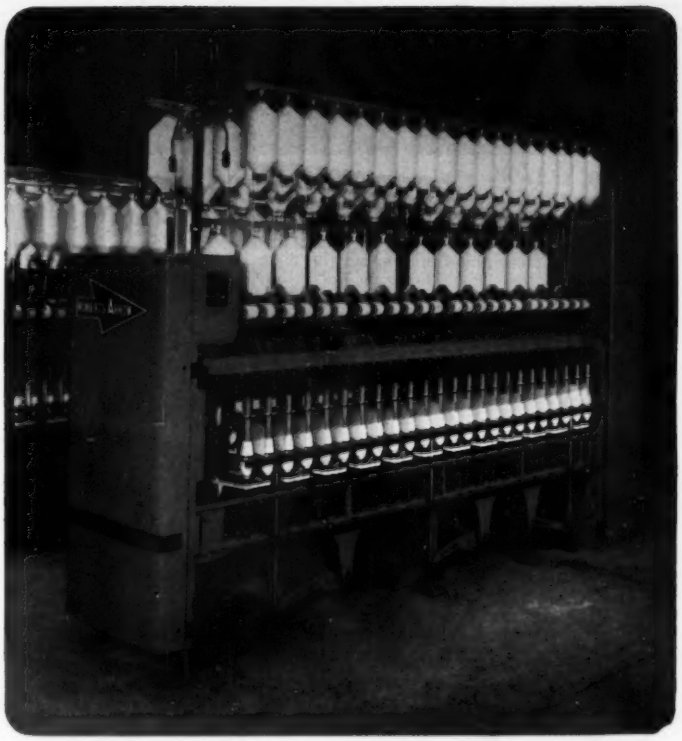
Double-Apron High Draft System

UnitVac Power-Suction Cleaning

Roberts All-Ball-Bearing Head

Unitized Sectional Frame

AeroCreel with Latch-Type Bobbin Holders



ROBERTS COMPANY

SANFORD, NORTH CAROLINA

In many mills Stowe-Woodward's new SEALSKIN cotton slasher roll covers have already proven that they offer more than any cover previously available. For example:

SEALSKIN outlasts other covers by 100% in almost every case.

SEALSKIN has lasted as much as 25% longer between grindings. (And grinding is easy. You can do it in your own shop.) Result: less down time, long trouble free operation, less maintenance costs.

SEALSKIN resists all types of sizes and can be used interchangeably in front or back position.

SEALSKIN has a uniform density, which means consistent size pick-up and closer control of your operation.

SEALSKIN gives you none of the problems previously found in slasher rolls. No more "blistering", "cracking", "crazing", "swelling".

SEALSKIN has a firm velvetlike surface. Gentle on the warp threads, yet with outstanding resistance to wear.

Ask your Stowe-Woodward Sales Engineer for the **SEALSKIN** *Bulletin. It gives you all of the facts. Or, write to:*

STOWE-WOODWARD, INC.
Newton Upper Falls, Mass.
Neenah, Wisconsin
Griffin, Georgia
on the West Coast
HUNTINGTON RUBBER MILLS, INC.
Seattle, Washington
Portland, Oregon

SHORTS & REMNANTS

(from page 8)

in swimming pool filtration systems.

The dynel fabric is sewn into bags and slipped over perforated grids to support a filter medium of diatomaceous earth.

Industry-School Cooperation

We think this is a good idea: **Morey Kaplan,** an instructor at Philadelphia Textile Institute, spent six weeks in a reciprocal training program this past summer at the Clarksville (Va.) Finishing Plant and Brookneal (Va.) Mills of Burlington Industries. Kaplan conducted three two-hour classes weekly for employees at the plants, and in turn Kaplan was provided with a training program in worsted dyeing and finishing.

Reciprocal programs like this are not new, of course, but we think that they should be practiced much more widely. Both schools and mills have much to gain, and nothing to lose.

Big Territory

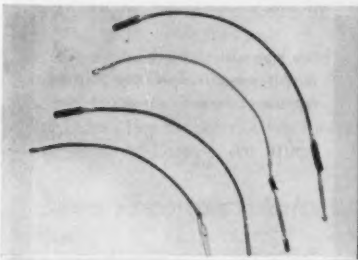
Nine western states, "a big chunk of Texas," and all of Alaska is the territory covered by **Jim Hawksworth,** West Coast manager for Graton & Knight Co., manufacturers of industrial leathers. Jim believes it's the biggest territory covered by any one salesman.

"Until Alaska became a state," he says, "my territory was only a million square miles. Now, with Alaska, it's a million and a half. I wear out a car every 18 months. I do a lot of flying, but nevertheless I practically run cars into the ground."

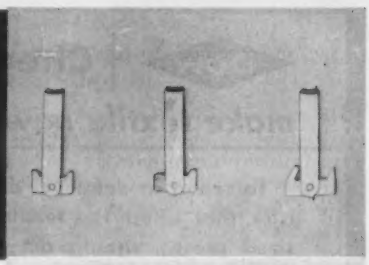
Here's a picture of Jim on a recent visit to G & K headquarters in

Worcester, Mass. That's Jim on the right, with **George Abbott,** G & K president.

► **Burt Muller,** advertising manager for Davis & Furber Machine Co., sends us a photostat of a D & F ad that appeared in another textile publication. "Write for your copy of the D & F News, to help you with your long-range panning," it says. So any reader who wants to pan someone



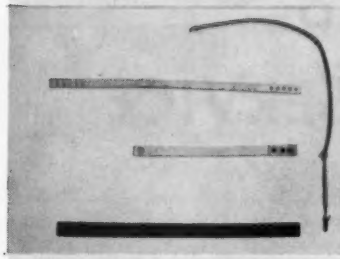
FOR LOOM



CORDS AND HARNESS ADJUSTERS

STIRRUPS, LOOPS, JACKEYES

CHANGE-OVER



YOU'LL NEED

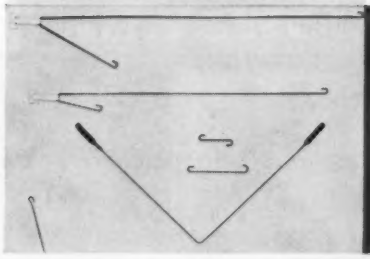
STRAPPING AND HARNESS ADJUSTERS

PLASTIC, WOOD, ALUMINUM SHEAVES

THESE ITEMS

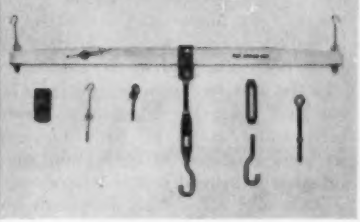
WIRES, HOOKS, STIRRUPS

JACKSTICKS AND PARTS



THESE ARE ALWAYS "ON THE SHELF" READY FOR IMMEDIATE DELIVERY

. . . also pull down springs, loom anchoring pads, take up roll covering, shuttle fur.



BATSON HAS THEM... and we will send them to you immediately. Orders will be filled the same day received... without delay, thus saving you lost time and money. Phone Greenville CEdar 2-7691 and relax — your order is already on the way!

LOUIS P. BATSON *Company*

P. O. Box 772
GREENVILLE, S. C.

DOW | **Chemicals**

make textile news and profits

To report in detail all developments in all fields of chemistry that affect the textile industry would require a good sized press, running day and night. Here you find highlighted a few developments, new and old, about seven chemicals that play a part in the quality or production costs of textiles. Other facts and other chemicals will be covered in subsequent advertisements in this series. To keep in the know, keep tab on both pages of this and following ads.

You may wish to check certain items in this advertisement and forward to those concerned in your company.

ROUTE TO:

_____

_____

_____

_____

_____

PLAQUEMINE . . . 5+9= BETTER CAUSTIC SODA SERVICE

Completed only last October, the plant at Plaquemine, Louisiana, is already giving textile men (who realize the importance of assured source of supply) reason to double-check their present sources.

Using ultra-modern equipment and methods, this multimillion dollar installation brings to five the number of caustic soda production plants operated by The Dow Chemical Company. With the nine Dow shipping terminals, it brings to fourteen the number of points from which top quality caustic is available for immediate delivery.

The advantages to textile men are many, both now and in the future.

In the last two years, quiet plantation land along the Mississippi River, thirty miles north of New Orleans, has been changed to a teeming spic-and-span industrial center where caustic soda and other vital chemicals are produced with modern efficiency and precision.

Dow cordially invites members of the textile industry to pay a call at Plaquemine and personally view this new source for many important textile chemicals. The effective use of natural resources appeals to the efficiency-minded: natural gas, piped from nearby fields, furnishes fuel for power and heat; water for cooling and processing is readily available from the Mississippi as it flows by the door. It is something worth witnessing: every requirement for efficient production of the finest caustic soda is concentrated here in one plant.

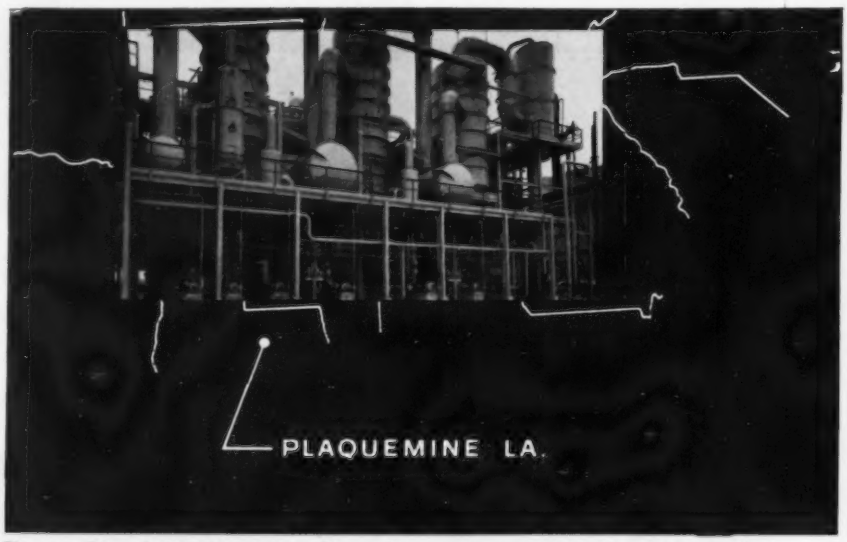
Textile management: the long view. A poll of men in textile mills, both large and small, will make these things clear:

- A dependable shipping source for caustic soda is important for efficient inventory control and economical manufacture.
- A dependable manufacturing source for top quality caustic soda is essential for long range planning. Regardless of what may develop nationally or internationally, a *sure* supply is necessary.

With five production plants—located in Michigan, Texas, California, Ontario and now Louisiana—Dow provides the best possible answer to the question of assured supply. And Dow's nine shipping terminals—each completely stocked and staffed for fast delivery—furnish a time-tested solution to the problem of dependable delivery.

In planning ahead, the textile executive finds there is another important consideration: Dow is widely accepted as the reliable source of supply for caustic soda in every form—50% and 73% solution, standard flake, solid and ground forms.

New basic guide for NaOH buyers. The comprehensive Dow Caustic Soda Handbook discusses properties of



The new Dow plant in Plaquemine, La., produces quality caustic soda, used by textile mills for kiering, for bleaching and mercerizing, for changing the "hand" or feel and producing a sheer finish.

NaOH, its uses, forms, shipping and handling data, and methods of analysis. Everyone in the textile industry connected with the use of this basic chemical should have a copy. Ask your Dow sales representative for your copy, or write Dow.

• Boon to cotton fabricators

Even whites resist wrinkles with EDA 98%

The latest improvement in ethylenediamine resins enables mills to fabricate cottons in pastel colors, even white, so they are not only wrinkle-resistant, but have excellent wrinkle recovery properties. Higher color retention in the finished fabrics, along with improved dimensional and storage stability, may also be obtained using EDA-derivatives.

The product that makes this possible is EDA 98%, pioneered by The Dow Chemical Company. Its quality and purity surpass anything previously achieved, making it the ideal base for ethylenediamine resins used in treating finished cotton. So pure, you can look through a bottle of EDA 98% almost as easily as through a plate glass window. This purity pays off with any cotton fabric but especially light colored or white fabric where true, pure tones are required for the important high style market which includes dress shirts, blouses, summer dresses and skirts.

The greatly improved resins from high quality EDA, the result of years of extensive research in the Dow laboratories, are attracting the attention of foremost cotton fabricators both in this country and abroad.

Dowicide preservatives help prevent damage in goods subject to mildew and rot.

• Dowicide G . . .

Textiles get an assist from chemistry

The preservation of starch solutions used by textile mills for warp sizing took a long step forward with the discovery of Dowicide® G, one of a family of industrial preservatives developed for the control of bacteria and fungi. Dowicide G (technical sodium pentachlorophenate) added to starch sizing prevents breakdown in vats and stops mildew damage in gray goods. By eliminating mildew, this modern preservative marks up a double savings. It saves fabricating time. And it saves the extra costs created by increased bleaching that's caused by mildew damage. Dowicide preservatives also effect important savings by preventing mildew and rot in carpet yarns; resisting rot in rope and bale twine and coated burlap; as well as preservation of cotton, rayon and silk yarn. Dow has experience-in-depth with each of these applications—you are invited to write for detailed information on your particular problem.

★ ★ ★ ★

LEARN MORE ABOUT CHEMICALS that are advancing textile production, reducing production costs. Dow is an authoritative source for information about textile chemicals as well as a reliable source for the chemicals themselves. Write THE DOW CHEMICAL COMPANY, Midland, Mich., Chemicals Sales Dept. 981FZ9

NEWSWORTHY NOTES

DOWANOL. Latest information about the most complete line of glycol ether solvents for dyeing is in a free folder and booklet on Dowanol® products.

GLYCOLS. Mono-, di- and triethylene glycol are three industrial glycols proved outstanding as fiber lubricants and as snagging or drying preventatives.

CHELATING AGENTS. Textile men use Dow triethanolamine to reduce iron staining; Versene®, Versenol® and Versenex* for other cost-cutting applications.

*TRADEMARK

DOW LATEX. In many applications, from carpet backing to hair-pad binding, Dow Latexes are cutting costs and providing improved product features.

DOW CHEMICALS BASIC TO THE TEXTILE INDUSTRY

Chemical Raw Materials
Bleaching Chemicals
Preservatives • Plasticizers
Glycols and Derivatives
Methylcellulose • Emulsifiers
Solvents • Aromatics
Caustic Soda
Muriatic Acid • Latexes
Chlorine • Soda Ash

THE DOW CHEMICAL COMPANY
Midland, Michigan

DOW

are you struck by
STATIC?

The SIMCO "*Midget*" electronic static eliminator is *guaranteed* to end your static problems . . . safely, inexpensively . . . in all textile applications. The "*Midget*" consists of a power unit and one or more static bars, designed to fit any machine. Anti-static cleaning devices and meters for locating and measuring static are also available.

Equip your machinery now.

the SIMCO company
920 Walnut Street, Lansdale, Pa.

SHORTS & REMNANTS

(from page 10)

from a distance is invited to write to Burt for instructions.

Broken Promise

"No matter what fabric and apparel manufacturers claim for 'wash-and-wear,' I find that in summer, particularly, the woman who doesn't want to appear in public in wrinkled clothes has to use an iron frequently. Here is one area where more truth in advertising is sorely needed."—Dorothy Diamond in *Printers' Ink.*

But look for a special section on wash-and-wear in TI for October—and that's the truth.

Anxious

"Thank you very much for returning my second remittance of $3.00 for a two-year subscription to TEXTILE INDUSTRIES. You can see I was really anxious to continue my subscription."

F. A. SMITH
Personal Products Corp.
Milltown, N. J.

Warp Sizing

"Our firm being specialized in man-made fibres, i.e., rayon, viscose, acetate, nylon, etc., could you tell me whether any book has been published with up-to-date information on their sizing."

J. TORRA-BALARI
Director Gerente
Manufacturas Textiles Torra-Balari
Barcelona, Spain

► The best book that we know of is Paul Seydel's "Warp Sizing," and you can get a copy with a two-year subscription to TI, at the special combination rate of $5.00.

► Coming back to wash-and-wear, the *Springfield Union* quotes Evangelist Billy Graham as saying that summer clothing is as hot in Moscow as it is in Washington. The newspaper notes that it's the same story all over: drip-dry suits on drip-wet bodies.

► We thank *Advertising Age* for making available this most unusual fund-solicitation letter:

Help fight mental illness
or I will kill you

► Scottish definition of golf: An ineffectual endeavor to put an insignificant pellet into an obscure hole with entirely inadequate weapons.

Miscellaneous Wants

Further information concerning fiber section cutting (TI for June, p. 79)—**William W. Bowman,** tech. dir., Shuford Mills, Inc., Hickory, N. C.

Reprint of "What Is Wash-and-Wear?" by P. J. Fynn (TI for Nov., 1958, pp. 86-89)—Librarian, Wool Textile Research Laboratories, CSIRO, Ryde, Australia.

Who makes the steam gun shown being used in the article "Unique Cleaning for F-F Machines" (TI for June, 1959, p. 141)—**Kurt Stahel,** sec., Oneko Mfg. Co., Inc., NYC. You can get full details from Oakite Products, Inc., 260 Rector St., New York 6, N. Y.

Two reprints of nomogram, "How Many Fibers per Yarn Cross Section?" (TI for June, 1959, p. 101)—**A. A. Beblanno** and **W. Sutton,** diretores, Companhia Nacional de Tecidos Nova America, Rio de Janeiro, Brazil.

Tear sheet of "Resin Odors in Fabrics Eliminated," (TI for April, 1959, p. 154)—**K. T. Louis,** chief chemist, The United Piece Dye Works, N. Charleston, S. C.

More information on false-twist unit (TI for June, 1959, p. 77)—**Th. Brandt,** Th. & A. Brandt, Nurnberg, Germany.

Book on woolen carding—**Harry M. Wilner,** The American Coat Pad Co., Baltimore, Md. TI publishes "Woolen & Worsted Manual," which deals with woolen carding, as well as with other woolen and worsted mill topics. It's available at $1.00 with a subscription to TI.

Copies of "Physical Textile Testing" (TI for Mar., 1951)—**W. W. Price,** librarian, Philadelphia Textile Institute; **Robert E. Cooper,** asst. prof. textiles, Bradford Durfee College of Technology. Sorry, but our supply of reprints of this article is completely exhausted.

Tearsheets of all material on nonwoven fabrics published in TI during the past year—**J. H. Wilkinson,** managing director, Marsh Pty. Ltd., Sydney, Australia.

Copies of chart "Identification of Dyestuffs on Textiles" (TI for Jan., 1958) and "Properties and Uses of the Man-Made Fibers" (TI for Aug., 1958)—**Fred E. Richmond,** Textile Testing Institute, Los Angeles, Calif. A limited supply of reprints of the 1959 revision of "Properties and Uses of the Man-Made Fibers" is now available.

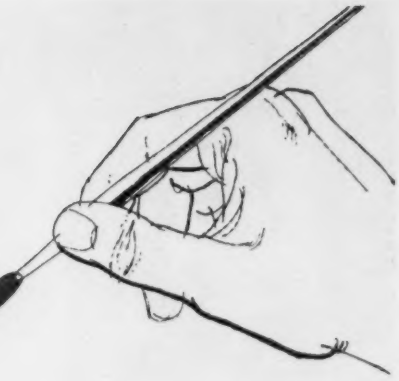
Where to get equipment for making snaked warps—**R. W. Gould,** R. W. Gould, Inc., Danielson, Conn.

MORTON SYSTEM

DYEING & BLEACHING MACHINES

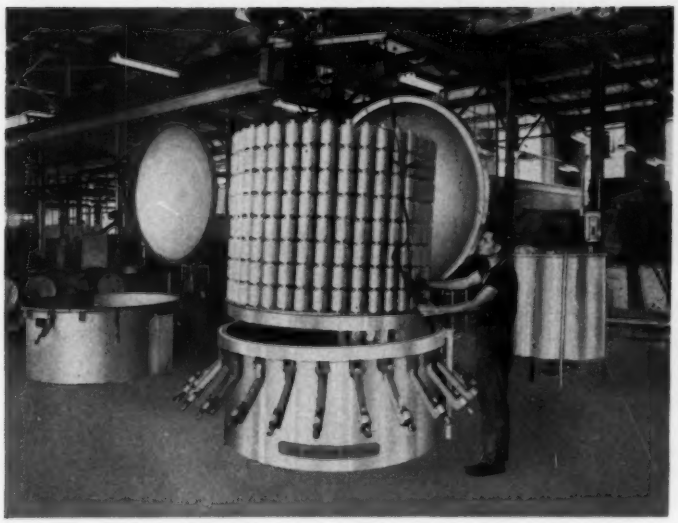
provides the

Finishing Touch



to the plant seeking

MODERNIZATION! GREATER PROFITS!



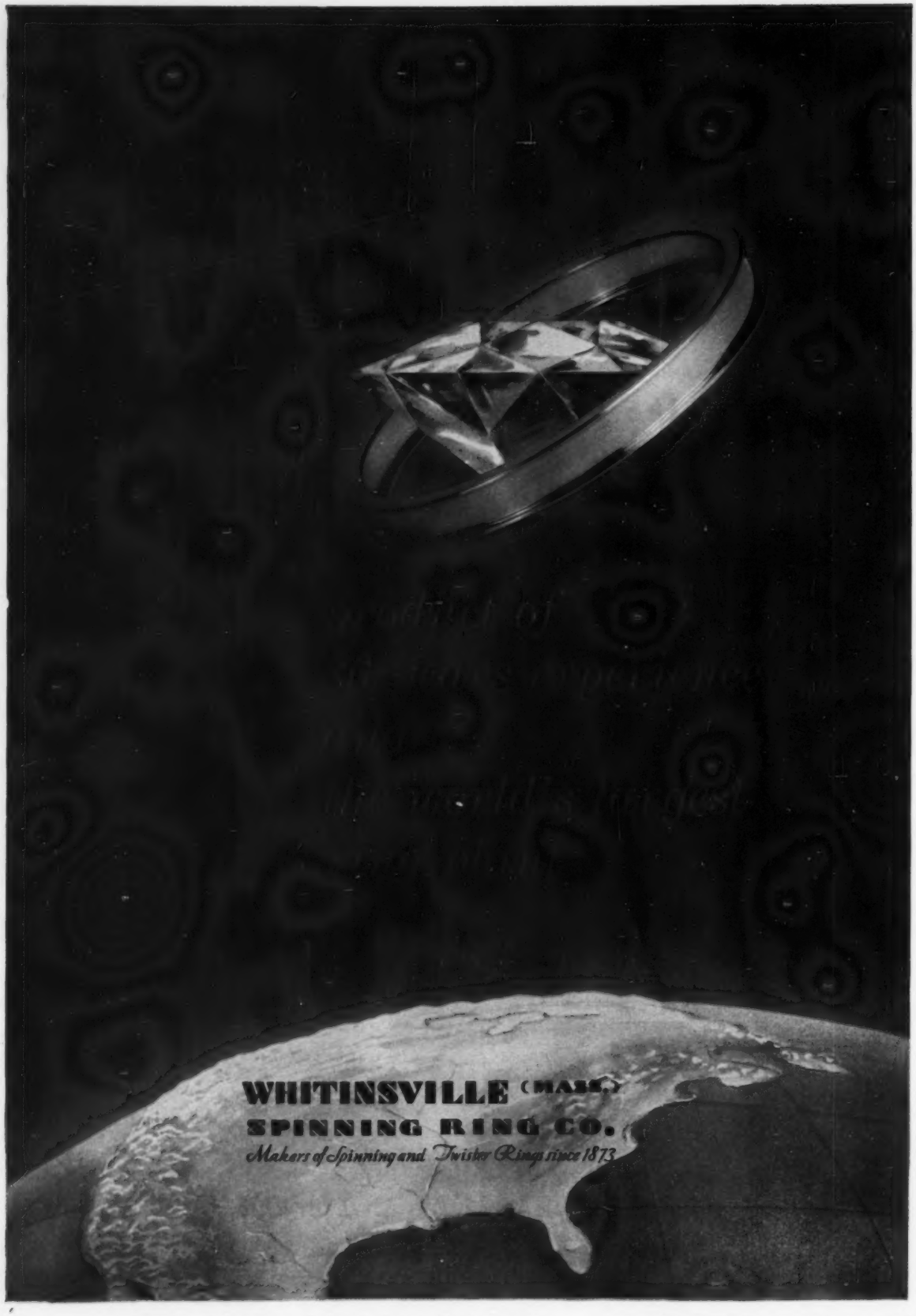
Whatever modern equipment is used in manufacturing yarns or fabrics, *quality* cannot be obtained without *quality* workmanship and equipment in the dyeing, bleaching and finishing operations.

Production and labor costs can be reduced substantially by investing in a MORTON SYSTEM INSTALLATION.

MORTON

MACHINE WORKS, INC.
COLUMBUS, GEORGIA

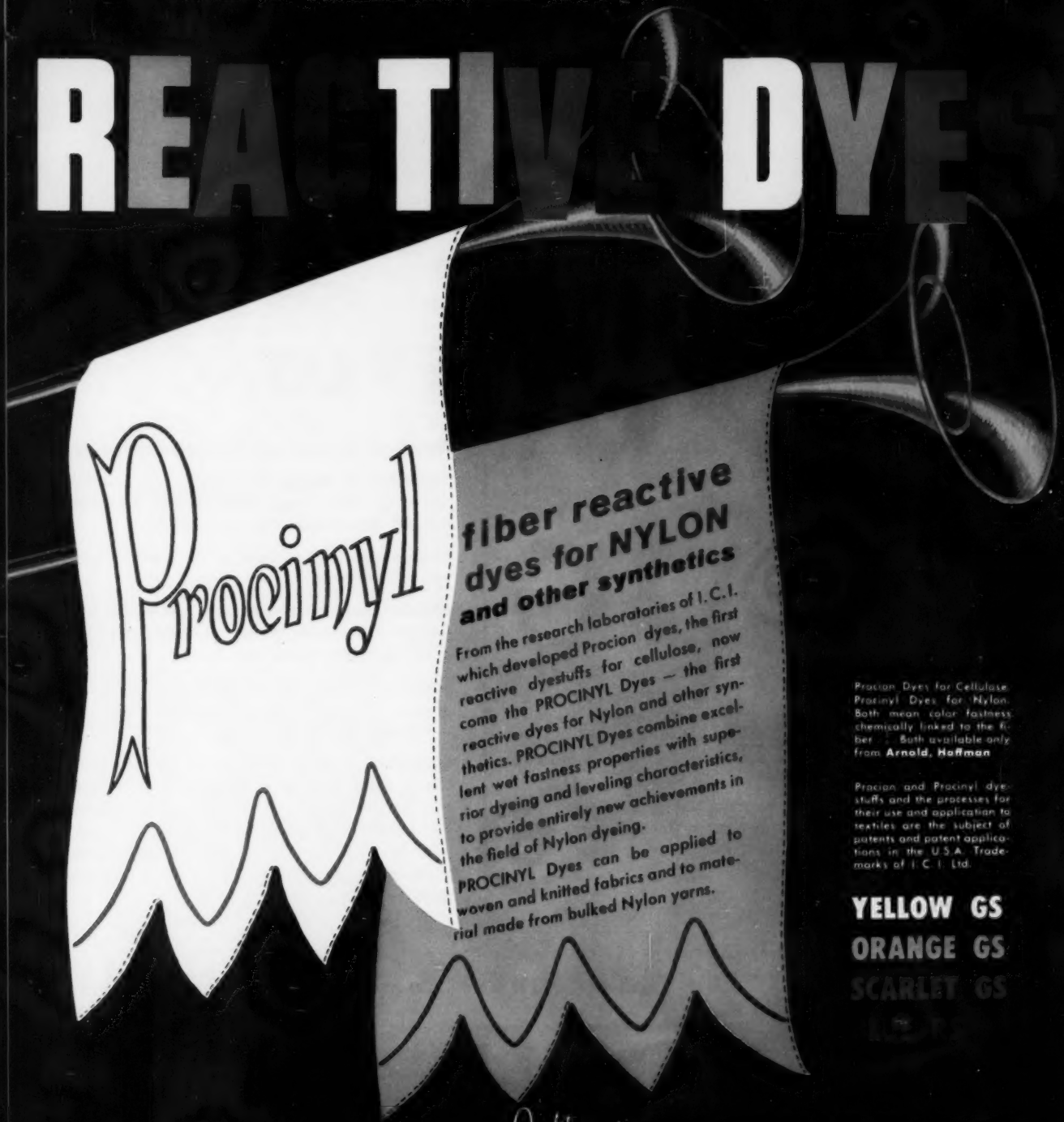
Manufacturers of THE MORTON SYSTEM Machinery for Dyeing and Bleaching of
BEAMS • PACKAGES • STOCK PIECE TOPS • VALVES • PUMPS • BEAM AND PACKAGE EXTRACTORS AND DRYERS • DYE BEAMS, ALL MAKES AND DESIGNS DYE TUBES • DYE SPINDLES • TUBE SPACERS • CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS


WHITINSVILLE (MASS.)
SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873

ARNOLD, HOFFMAN

ANOTHER FIRST

REACTIVE DYES


Procinyl
fiber reactive dyes for NYLON and other synthetics
From the research laboratories of I. C. I. which developed Procion dyes, the first reactive dyestuffs for cellulose, now come the PROCINYL Dyes — the first reactive dyes for Nylon and other synthetics. PROCINYL Dyes combine excellent wet fastness properties with superior dyeing and leveling characteristics, to provide entirely new achievements in the field of Nylon dyeing.
PROCINYL Dyes can be applied to woven and knitted fabrics and to material made from bulked Nylon yarns.

Procion Dyes for Cellulose. Procinyl Dyes for Nylon. Both mean color fastness chemically linked to the fiber. Both available only from **Arnold, Hoffman**

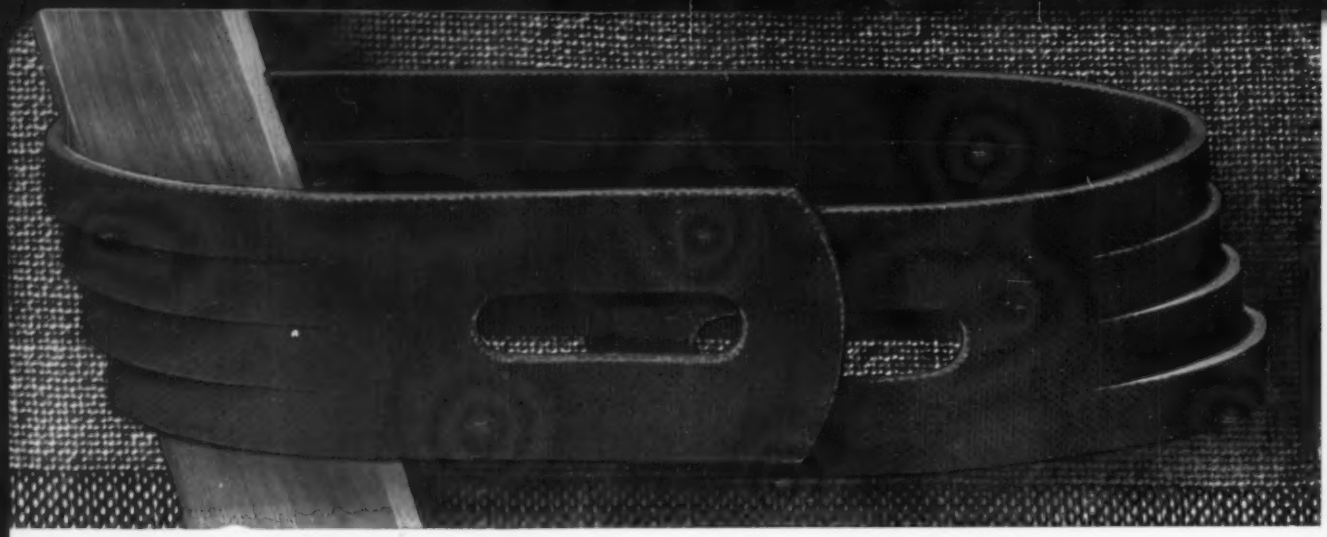
Procion and Procinyl dyestuffs and the processes for their use and application to textiles are the subject of patents and patent applications in the U.S.A. Trademarks of I. C. I. Ltd.

YELLOW GS
ORANGE GS
SCARLET GS

Quality AHCO PRODUCTS Integrity

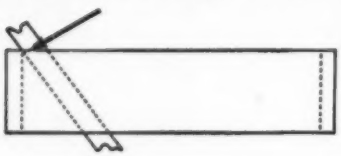
ARNOLD, HOFFMAN & CO., INCORPORATED
55 Canal Street, Providence, Rhode Island • Est. 1815
A Subsidiary of Imperial Chemical Industries Limited, England
West Coast Representative: Chemical Manufacturing Company, Incorporated of California

ICI

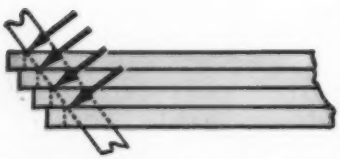


Gates 4-in-One Check Strap LASTS up to 3 TIMES LONGER

New Checking Principle is Secret of Longer Wear—



With the ordinary one-piece check strap, all shock and wear from the picker stick are concentrated at one point.



Gates 4-in-1 Check Strap is built with four separate bands. As the checking action begins, a portion of the picker stick force is absorbed by the top band—then in turn, the second, third and fourth bands each absorb a portion of the shock, providing a checking action that is smooth and even. Wear is distributed evenly over the entire width of the strap, increasing service life up to 3 times.

You Get These Important Benefits:

Unaffected by Changes in Humidity—no stretch or contraction—ready to go Monday mornings without time-consuming adjustments.

Stronger and Tougher than Leather—yet flexible and light in weight.

Absorbs Shock of Picker Stick—resilient and flexible—conforms to any action of the picker stick, absorbing blows and shocks.

Saves Installation Time—quickly installed and adjusted without removing picker sticks. No new brackets needed.

Competitive Price—even though Gates 4-in-1 Check Strap has many important advantages over ordinary straps, it is competitively priced. For faster, more economical production, equip your looms with *all* Gates *specially engineered* accessories . . . available from Gates Textile Distributors.

Gates Distributors are in the Yellow Pages

Gates

The Gates Rubber Company, Denver, Colorado

The Mark of *Specialized* Research

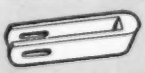
TPA-900

Take-up Roll Coverings
Card Bands
Cone and Evener Belts
Spinning Frame Drives

Reversible Pickers

Tex-Hide Harness Straps

Tex-Hide and Vulco Loop Pickers



Thin Tex, Vulco, Tex-Hide & Super Tex-Hide Lug Straps

Gates Textile Accessories

SAFETY SWITCHES STAND UP UNDER 100,000 AMPERE SHORT CIRCUIT TEST!

INDEPENDENT TESTING LAB RELEASES FINDINGS AFTER GRUELLING "TORTURE RACK" TESTS

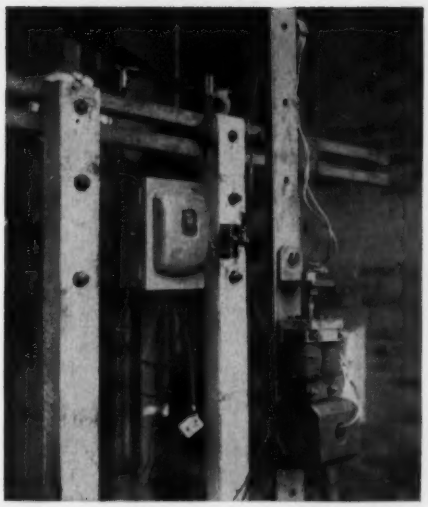
Unprecedented tests have been completed on 30 through 600 ampere rated Square D safety switches equipped with high capacity current limiting fuses. During these tests, switches were closed on a short circuit system delivering up to 100,000 amperes (symmetrical—R.M.S.). In addition, the fault was applied on the closed switches. *All switches withstood the shocks without any sign of failure!*

High Capacity Systems Demand Stamina

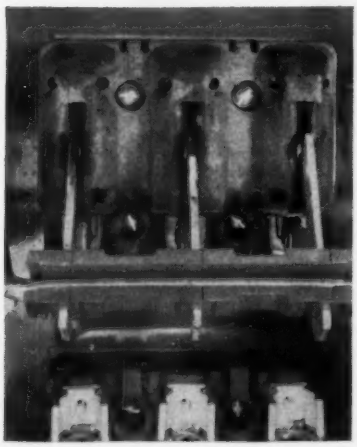
High capacity systems capable of delivering tremendous short circuits are becoming more and more prevalent with the growth of electrical loads. Network systems in metropolitan areas are a source of such faults. Another, the heavy industrial areas, with a concentration of sub-stations and rotating machinery. Terrific stresses and heat generated by such faults are serious hazards to both personnel and equipment unless properly contained. That is why proven protection for switching service and feeder circuits is of major concern.

Square D Standard Switches Do The Job

These tests offer conclusive proof that standard Square D Type HD and Type ND switches, equipped with high capacity current limiting fuses, can be used on such systems without fear of failure. You pay no premium for the proven performance they offer. Why settle for less?



Square D switch on "torture rack" during test involving up to 100,000 ampere short circuit



SUMMARY TABLE • Extract from Report No. S/NA R66—Sheet No. 5

Ampere Rating	Voltage Rating	Catalog Number	Average Symmetrical Prospective Current R.M.S.	Recovery Voltage R.M.S.	Maximum Total Arcing Time	Fuse Type
30	250	A85361	96,600	252	.0009	A2Y-30A
30	250	A85351	96,400	253	.0010	FRN-30A
30	600	A85341	107,000	590	.0020	A6Y-30A
30	600	A85341	106,000	601	.0027	FRS-30A
60	250	A86352	96,400	248	.0010	A2Y-60A
60	250	A86352	95,200	252	.0019	FRN-60A
60	600	A86342	106,000	605	.0011	A6Y-60A
60	600	A86342	108,000	598	.0020	FRS-60A
60	600	A86342	107,000	601	.0013	NAS-60A
100	250	A86353	95,200	253	.0009	A2Y-100A
100	600	A86343	108,000	604	.0014	A6Y-100A
200	250	A86354	95,200	253	.0037	A2Y-200A
200	600	A86344	107,000	602	.0011	A6Y-200A
400	250	A86355	95,900	252	.0039	A2Y-400A
400	600	A86345	106,000	611	.0050	A6Y-400A
600	250	A86356	94,500	251	.0062	A2Y-600A
600	600	A86346	107,000	601	.0062	A6Y-600A

Above • Extract of Nelson High Power Laboratory Report C/NA-66

At left • No sign of failure in this switch interior after 100,000 ampere short circuit test

SQUARE D SAFETY SWITCHES GIVE YOU *Certified* PERFORMANCE!

SQUARE D VISIBLE BLADES you can SEE you're safe!

SQUARE D COMPANY

Keep your spindles running clean and trouble-free with Gulfspin . . .

GULF MAKES THINGS RUN BETTER!

Do your spindles run smoothly year after year? If not, chances are you can save time and money by switching to Gulfspin—the oil that helps you cut costs 3 ways.

1. You save cleaning costs with Gulfspin—because its high oxidation stability resists the formation and deposit of sludge, gum, resin and rust. You don't have to pump your spindle bases as often. In some mills, spindles have run clean and trouble-free for more than ten years with Gulfspin.

2. You save power costs with Gulfspin—because it does not increase in viscosity even after long service. Spindles run easier. And starting torque is reduced.

3. You save maintenance costs with Gulfspin—because it has the load-carrying ability to keep spindles running smoothly—longer. Gulfspin gives spindles an extra margin of protection against high temperatures and excessive wear.

See how Gulf makes things run better! For information on the right grade of Gulfspin for your specific needs, contact a Gulf Sales Engineer at your nearest Gulf office, or write for Gulfspin folder.

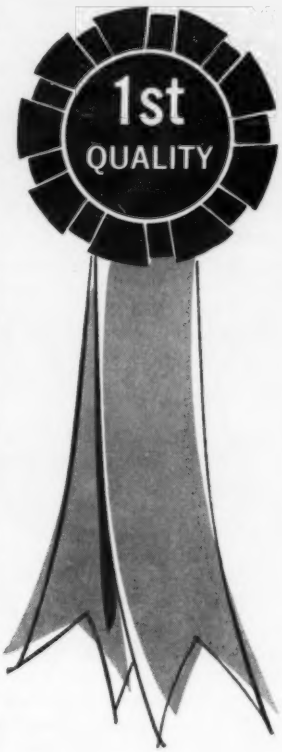
GULF

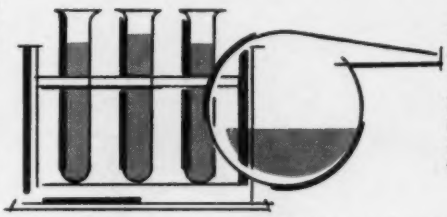
GULF OIL CORPORATION • Dept. DM, Gulf Building • Pittsburgh 30, Pa.

YOU BENEFIT 5 WAYS

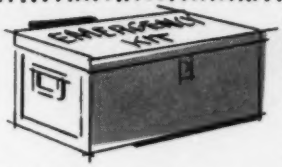
with SOLVAY CHLORINE!

PRODUCT You get chlorine made by America's foremost producer of alkalies. Outstanding in a line that has set the industry's standards!

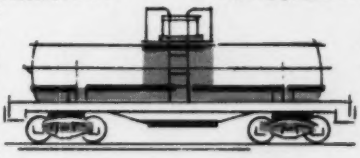




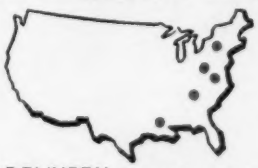
SERVICE You get the help of chlorine specialists in Solvay Technical Service working on your problems. Fast aid and expert literature in the use, handling and storage of chlorine for textiles, paper, water, sewage.



SAFETY You get safety programs and equipment pioneered by Solvay. Emergency Kits you can buy or borrow for cylinders, 1-ton containers, tank cars. Safety wall charts displaying vital unloading, handling, first aid facts.



PACKAGING You get Solvay® Liquid Chlorine in the package most convenient for you. Tank cars—32,000 lbs., 60,000 lbs., 110,000 lbs. Multiple unit cars of 15 1-ton containers. 150-lb. cylinders.



DELIVERY You get carload and l.c.l. orders speedily from production centers in Syracuse, N. Y., Moundsville, W. Va., Hopewell, Va., Brunswick, Ga., Baton Rouge, La. and a network of distribution points.

Sodium Nitrite • Calcium Chloride • Chlorine • Caustic Soda Caustic Potash • Potassium Carbonate • Sodium Bicarbonate Chloroform • Methyl Chloride • Soda Ash • Vinyl Chloride Ammonium Chloride • Methylene Chloride • Carbon Tetrachloride • Snowflake® Crystals • Monochlorobenzene • Orthodichlorobenzene • Para-dichlorobenzene • Ammonium Bicarbonate • Hydrogen Peroxide • Aluminum Chloride • Cleaning Compounds • Mutual® Chromium Chemicals

Allied Chemical

SOLVAY PROCESS DIVISION

61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL CORPORATION
61 Broadway, New York 6, N. Y.

EN-99

Please send me without cost these Solvay Technical Bulletins:

- ☐ #7—"Liquid Chlorine"
- ☐ #11—"Water Analysis"
- ☐ #8—"Alkalies and Chlorine in Treatment of Municipal and Industrial Water"
- ☐ #12—"The Analysis of Liquid Chlorine and Bleach"
- ☐ #14—"Chlorine Bleach Solutions"
- ☐ Chlorine Safety Wall Chart.
- ☐ Have your representative call.

Name _____

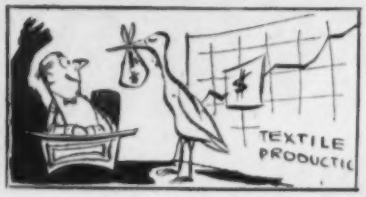
Position _____

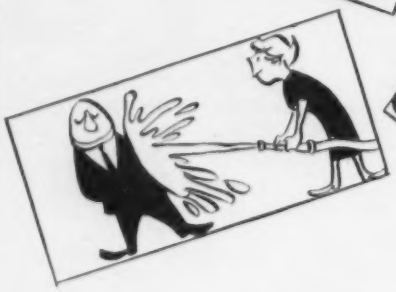
Company _____

Phone _____

Address _____

City _____ Zone ____ State _____





EACH MONTH IN TEXTILE INDUSTRIES

SEARCHING CARTOON COMMENTARY ON THE STATE OF AFFAIRS IN TEXTILES BY "ERIC", FAMOUS NEWSPAPER CARTOONIST.

A PLUS FEATURE OF

TEXTILE INDUSTRIES

806 PEACHTREE ST., ATLANTA 8, GA.

MILL NOTES

Plans to rebuild the Gaffney, S. C., plant of **Universal Prints** have been initiated. The silk screen printing plant was destroyed by fire recently.

A new firm, **Vale Spinning Co.**, has leased a portion of the former Elmvale Worsted Co. property in Pittsfield, Mass., and is now in production. Vale announced that it had purchased the spinning equipment of the Elmvale facility in Pittsfield. Raymond J. Stenson, a vice-president of Vale, heads the new operation.

Warley Worsted Mills, Inc., which, three years ago, moved from Lowell, Mass., to Farnumville, Mass., is returning to Lowell. The firm will occupy a floor of the Hub Hosiery Co. building.

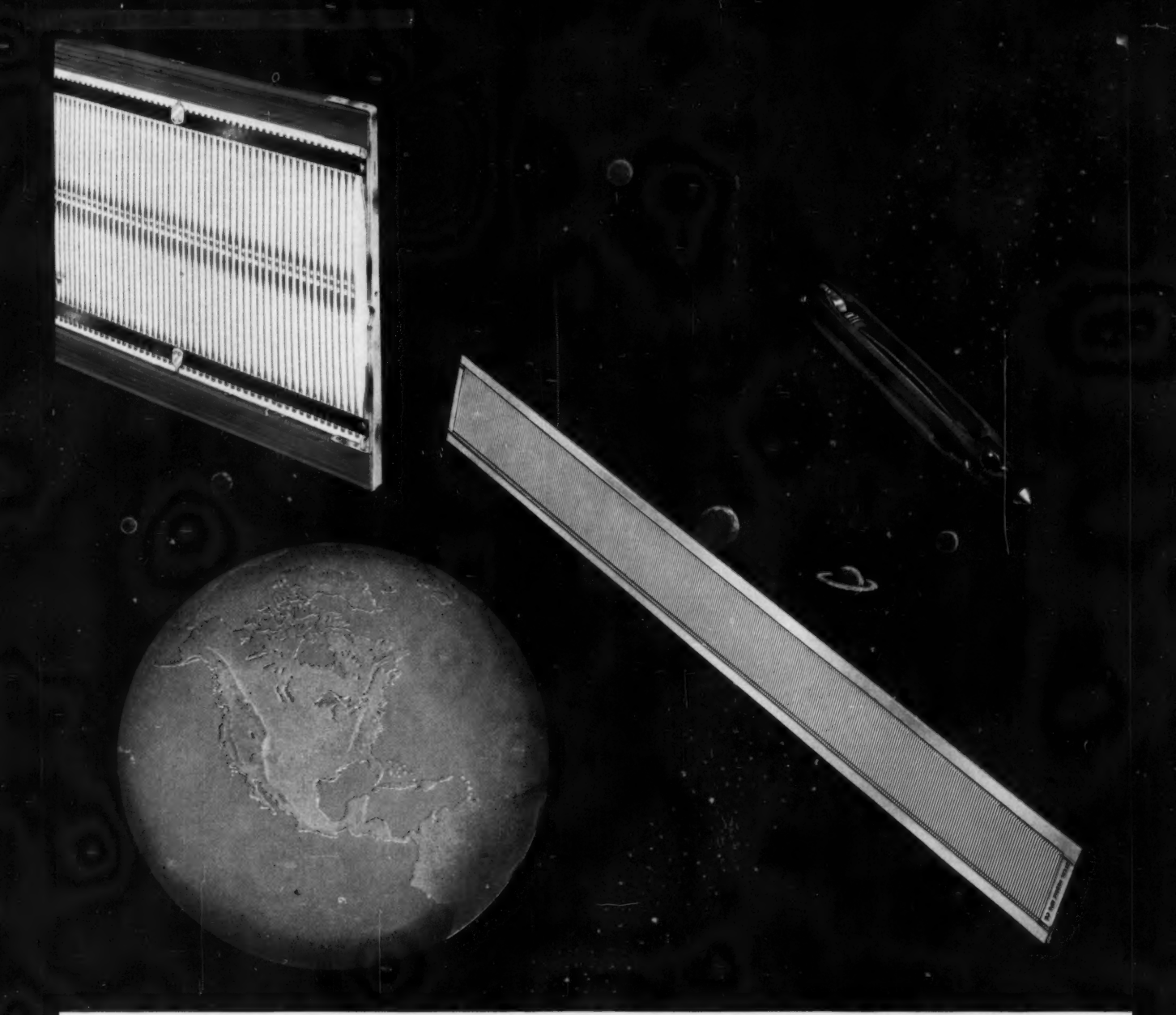
Marvin G. Widenhouse has purchased the **Kelly Dyeing & Finishing Co.** in Charlotte, N. C., and will operate it under the name of **Midland Dyeing & Finishing Co.** Addition of the plant increases production capacity of the Widenhouse enterprises to 12,000 dozens a week.

Cornwall & York Cotton Mills Co., Ltd., St. John, N. B., has been closed and the equipment sold to one firm and buildings and land to another. The yarn mill was a subsidiary of Canadian Cottons Ltd., Montreal, Canada.

A new finish for cotton threads has been developed and is now being applied to cotton yarns by **Groves Thread Co., Inc.**, Gastonia, N. C. It is said to provide more uniform tension and even stitches with less drag and needle heat.

An expansion program that will add 7,500 sq ft for shipping and storage to its hosiery finishing plant has been announced by **Magnet Mills, Inc.**, Clinton, Tenn.

(Continued on page 36)



Stehedco Quality Products and Service Make a World of Difference

Because textile profits depend upon long, trouble-free runs of perfect, high quality fabrics, weavers demand quality in their Heddles, Frames, Reeds and Shuttles.

Because profits also depend upon having the right equipment —when it is needed—weavers look for superior service from their supplier.

It is significant that where quality and service are important, Stehedco is specified.

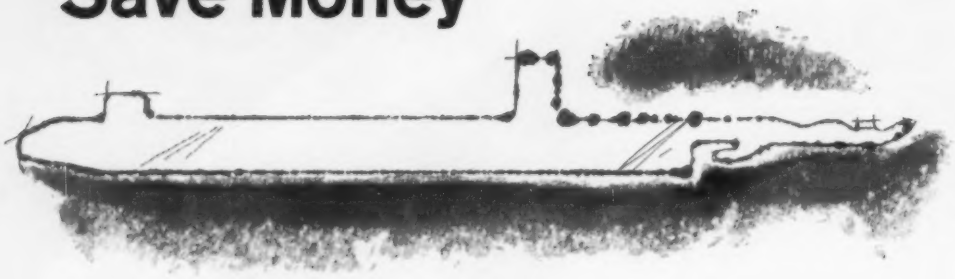
Learn more of Stehedco quality and service from your Stehedco Sales Engineer. Earn more profits by choosing Stehedco.

Stehedco
STEEL HEDDLE MFG. CO.
PHILADELPHIA 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S. C.
Southern

Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass. • Greensboro, N.C. • Atlanta, Ga. • Textile Supply Co., Dallas, Texas • Albert R. Breen, Chicago, Ill.

K-5815

Needles... Oil... and How to Save Money



A stitch in time saves nine—but in time, knitting needles can rust—and rust wastes money. Moral: eliminate rust and other costly deposits with Sinclair Crystoil. This very light-colored oil works to give you more first-quality knit-wear—and a more profitable operation. Switch to Crystoil now. Next time management asks how you've cut costs, tell them you've changed to Sinclair—and show them the results.

Find out more about CRYSTOIL. Call your nearest Sinclair Representative or write Sinclair Refining Company, Technical Service Division, 600 Fifth Avenue, New York 20, N. Y. There's no obligation.

Sinclair

Sinclair
Crystoil Needle Oils

HARSHAW UVERSOFT "D"

imparts soft hand with little reduction in moisture absorbency

● UVERSOFT "D" is a cationic surface active agent which produces a full, soft hand with little, if any, reduction in moisture absorbency of the TREATED material. It can be exhausted from a long bath, and has an excellent retention in an aqueous system. UVERSOFT "D" provides a maximum economy in application and use.

UVERSOFT "D" is an outstanding anti-static agent. It should be considered for situations where the accompanying softening action is not objectionable.

Send for folder containing complete technical information.

THE HARSHAW CHEMICAL COMPANY ● 1945 East 97th St., Cleveland 6, Ohio

Send me TECHNICAL BULLETIN ON UVERSOFT "D"

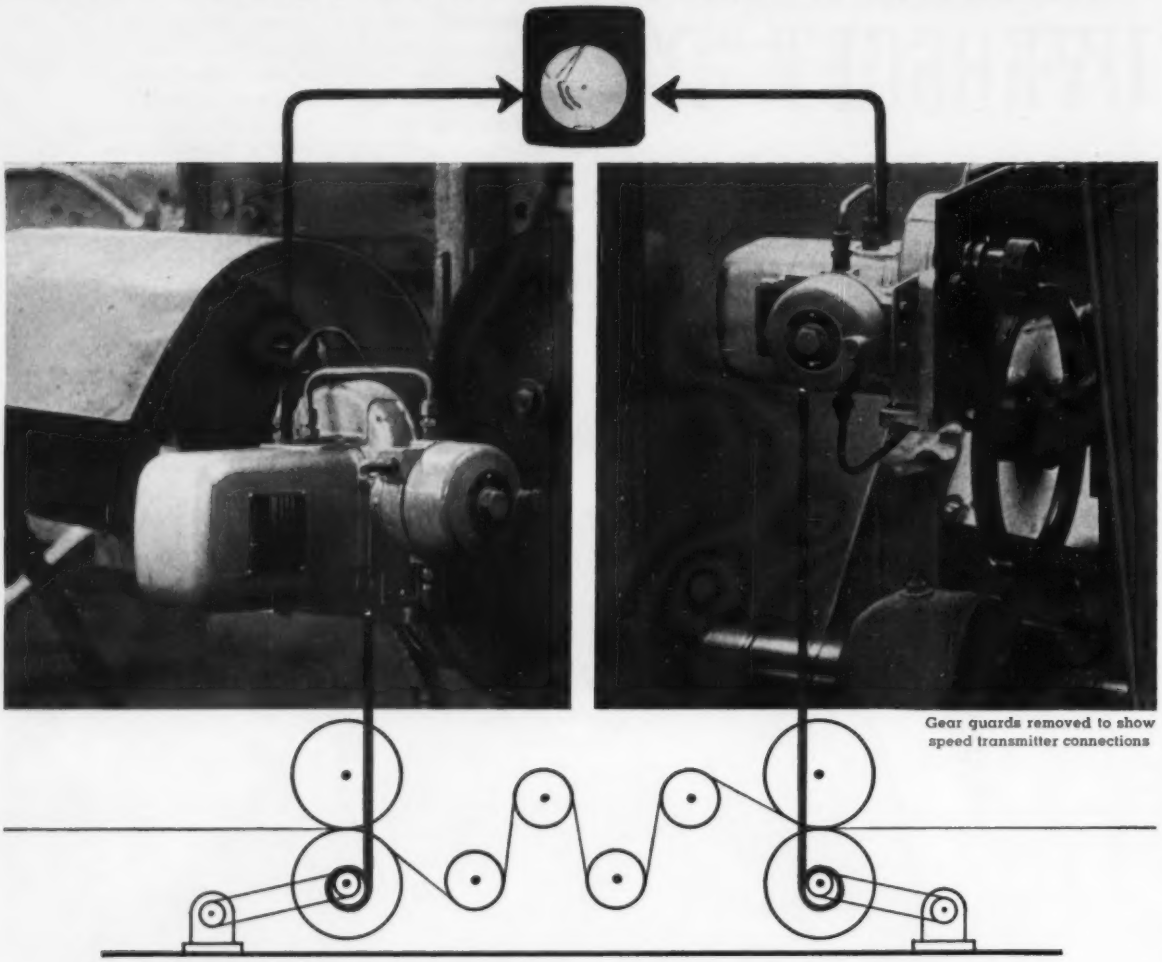
My Name_____

Company Name_____

Street Address_____

City_____ Zone____ State_____

NOW! CONTINUOUS RECORDING OF YARN AND CLOTH STRETCH!



Gear guards removed to show speed transmitter connections

unique Foxboro system provides accurate records of stretch in yards per minute

Accurate continuous records of cloth and yarn stretch — simply and economically — are now possible with Foxboro's unique pneumatic stretch recording system.

Two Foxboro Type 16A Pneumatic Speed Transmitters and a Foxboro 2-pen recorder make up the stretch recording system. One transmitter measures the speed of the feed roll drive — the other, the speed on the roll that applies the stretch. Both speeds are transmitted to the 2-pen receiver, and recorded in yards per minute. Difference in two records is the stretch being applied, with one record also giving a continuous record of machine production.

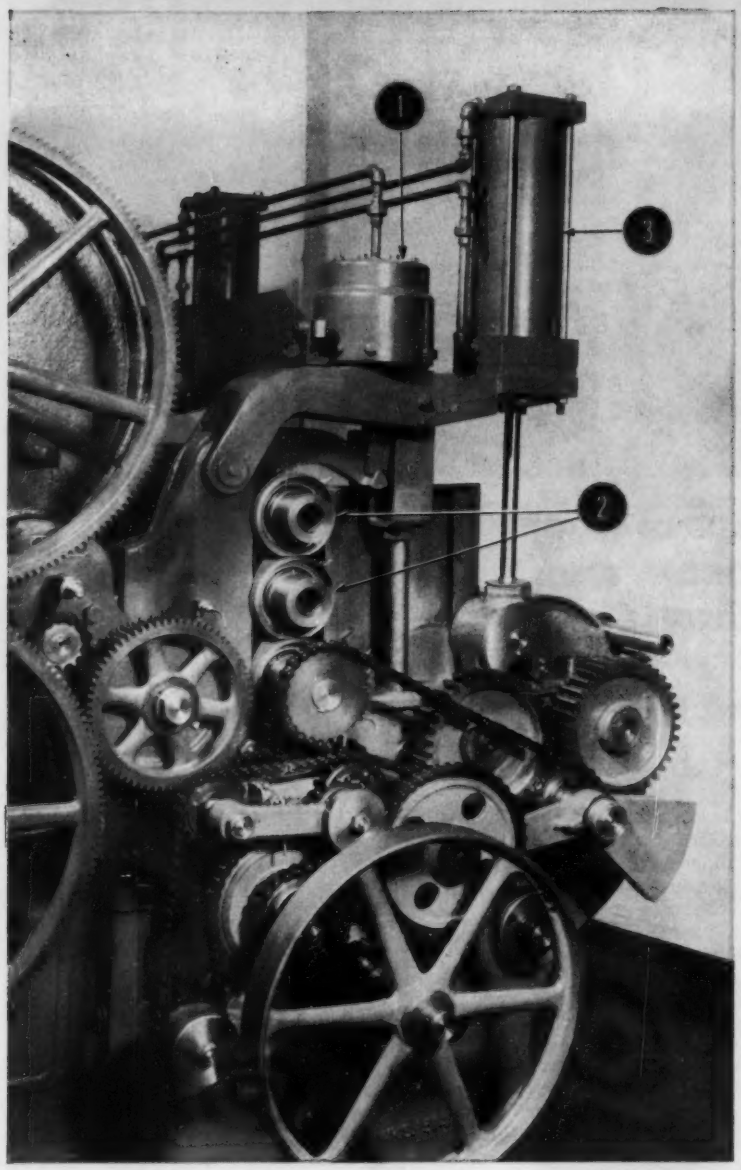
The Foxboro Stretch Recording System is ideal for slashers, dryers, mercerizers, finishing ranges, and other high-speed textile machinery. It will record as many as 4 speeds on one recorder, or 2 speeds and other related measurements. And the system can be used with a Foxboro Ratio Controller to control percent stretch as well.

Get full details from your nearby Foxboro Field Engineer. Or write for new data sheet 220-80, and tell us about your stretch recording problem. **The Foxboro Company, 489 Neponset Avenue, Foxboro, Mass.**

FOXBORO

REG. U.S. PAT. OFF

The ALDRICH HIGH COMPRESSION CALENDER



1 Diaphragm air cylinders, having neither pistons nor stuffing boxes, apply resilient pressure up to 12,000 pounds upon the calender rolls. Resilient pressure gives more uniform calendering, and protects the calender from shock loads. All pressure is released each time the calender stops, and is instantly applied when it starts.

2 Meehanite calender rolls, stronger and smoother than grey iron, are carried on roller bearings which fit standard roll necks. The special mountings for these bearings keep the rolls perfectly aligned at all times. This is very important where more than three times the usual pressure is applied to the rolls.

3 Air cylinders apply pressure directly to the top of each calender rack. Both calender racks are tied together with the usual cross shaft to prevent big-ended laps, which will not feed well on the cards.

The racks rise automatically when the calender stops for doffing, but are run down independently by the picker tender after the lap pin is threaded.

The chain drive replaces most of the gears and gives better control of drafts and quieter operation. Chains are oiled by automatic forced-feed system which also oils gears.

The elimination of the old drop-shaft gearing is particularly desirable. The drop-shaft is now mounted on self aligning ball bearings.

AldricH MachinE WorkS
Greenwood, South Carolina

Trouble free controls cut maintenance costs—and increase production

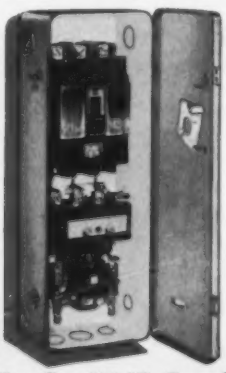
...That's why more and more textile plants specify

ALLEN-BRADLEY
Quality Motor Control

Records show that Allen-Bradley quality motor controls are real "moneysavers." Their consistent, trouble free performance reduces inspection and maintenance costs drastically.

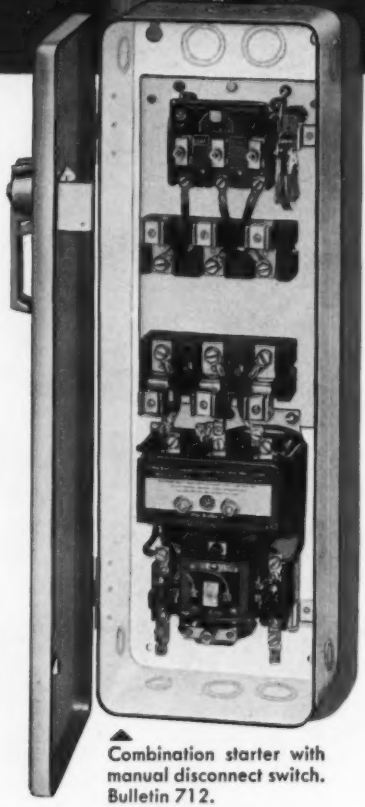
It's the simple solenoid design of A-B starters that makes this operating reliability possible. With only ONE moving part, you are assured millions of dependable operations. Also, their double break, silver alloy contacts are always in perfect operating condition until completely worn away . . . and remain so *without* servicing. Insist on Allen-Bradley—the *quality* motor control—and cut control maintenance costs in *your* plant.

There's a trouble free A-B starter for every textile machine application

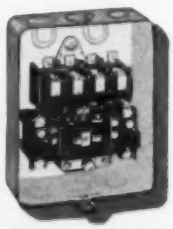


A-B combination starter with circuit breaker. Bulletin 713.

Manual starting switch in lint-tight enclosure. Bulletin 1209.



Combination starter with manual disconnect switch. Bulletin 712.



Automatic across-the-line solenoid starter. Bulletin 709.

Allen-Bradley Co., 208 W. Greenfield Ave., Milwaukee 4, Wis. • In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY Quality Motor Control

Standard

SPECIALISTS IN

TEXTILE OILS

TEXTILE FINISHES

TEXTILE SPECIALTIES

STANDAFIN 77

A fully polymerized resin that requires no curing or after-treatment. The problems of yellowing of white and light shades are eliminated; the worry of odor is gone. This product imparts a soft, silky hand, is an excellent non-slip and has good anti-static properties. Because so little is needed for finishing, the overall cost is low.

PYROTEX 121

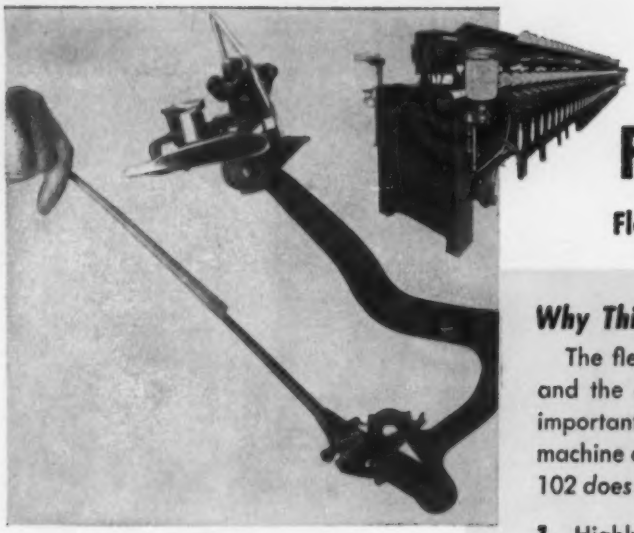
A detergent that is easy to handle, dissolves quickly and can be used on all fabrics. Its quick rinsability reduces the number of rinses thus cutting cost of operation. In dyeing, it promotes levelness, penetration and clear shades; the goods are left with a soft, pleasing hand.

STANDAFIN T.

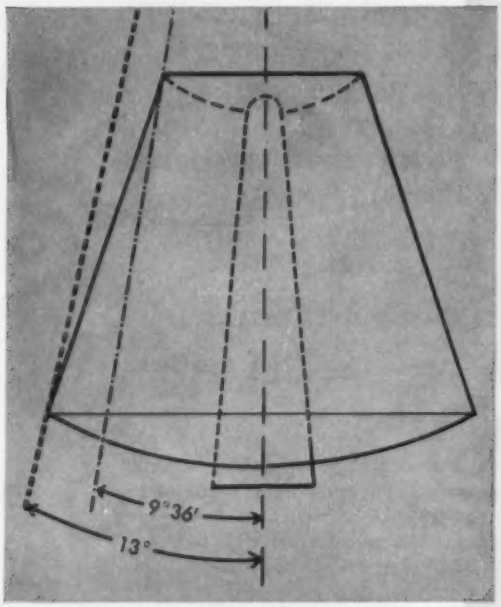
Specially designed for a taffeta finish requiring swish, non-slip and extraordinary character. It imparts a rustling sound, firm hand and fullness that is so desirable in this type of cloth. This non-curing resin requires no after-treatment or washing, is easy to use, will not mark off and is not affected by atmospheric conditions.

STANDARD CHEMICAL PRODUCTS INC.

HOBOKEN, N. J. • CHARLOTTE, N. C.



TILTING BOBBIN PIN FOR SOFT TWIST COPS WHERE SINGLE BALLOON AND MINIMUM TENSION ARE REQUIRED



DRAWING OF 9°36' TAPER CONE

SLUB CATCHING AND WAXING ATTACHMENT

FOSTER MODEL 102

Flexibility — Economy — Quality Winding

Why This Machine Produces a Quality Package

The flexibility (adaptability to changing conditions) and the economy of the Foster Model 102 are very important, but they would be of far less value if the machine did not produce a quality package. The Model 102 *does* produce a quality package and here's why: —

1. Highly efficient slub catchers automatically inspect the yarn.
2. The 9° 36′ convex base cone promotes free delivery on the knitting machine — prevents underwinding and "nipitis".
3. Yarn conditioning and waxing attachments give proper softness and lubrication to yarn.
4. Ribbon breaker prevents ribbon wind.
5. Idler shell on winding drum prevents burning or chafing of yarn at nose of cone. Hairline fit prevents cutting.
6. Adjustable angle of wind assures properly formed packages which hold their shape in transit.
7. Even the softest twist yarns can be wound with minimum breakage, because they can be wound with no tension, if necessary.

Learn also about the flexibility and economy features of the Model 102. Write for Bulletin A-95-A.

FOSTER MACHINE COMPANY

A Yarn Winder for Every Purpose

Westfield, Massachusetts, U.S.A.

Southern Office — Johnston Bldg., Charlotte, N. C. *Canadian Representative* — Ross Whitehead & Co., Ltd., 2015 Mountain St., Montreal, Que. and 100 Dixie Plaza, Port Credit, Ontario • *European Representative* — Muschamp Textile Machinery (Sales) Limited, Eider Works, Wellington Road, Ashton under Lyne, Lancashire, England.

A Member of American Textile Machinery Association

636-B

Colors are truer, re-runs fewer with Morton Chemical grade '999' salt

Tests for color standards show that dyes often are less effective when you use salt of average purity. Quality control methods will show best results with high purity Morton Chemical Grade '999' Salt. It's the all sodium salt, sodium chloride and a trace of sodium sulphate, that many dye manufacturers use in testing their dyes before they are sent to you.

When you use Morton Chemical Grade '999' Salt in your operation, it complements your dyes . . . makes them more effective and helps you get softer finishes, more even shades and greater color intensity. It's easy to see why. Morton Chemical Grade '999' is more than 99.95% pure sodium chloride. It is a low cost, high purity evaporated salt free from objectionable calcium and magnesium compounds that may precipitate or react with dyes to reduce their effectiveness.

Available in 100-lb. bags or bulk, Chemical Grade '999' is recommended for use *whenever commercial calcium-free salt* is required. It's specifically recommended when direct salting is used in dyeing rawstock, package, beam, beck or jig with either sulphur, direct, or naphthol dye.

Morton offers you intermediate grades of salt, too

In addition to Chemical Grade '999' Morton produces several other grades of high-purity salt for textile use. As the only nationwide salt company, Morton can supply the kind of salt and service you require, regardless of your size, particular operation or your location.

- ☐ Please send me more information about Morton Chemical Grade '999' Salt.
- ☐ I would also like to consult with a Morton representative about the other intermediate grades of salt Morton offers the Textile Industry.

Name_____
(please print)

Title_____

Company_____

Street_____

City_____ **Zone**_____ **State**_____

MORTON SALT COMPANY

INDUSTRIAL DIVISION

Dept. TI-9, 110 N. Wacker Drive, Chicago 6, Illinois

YOU BENEFIT FOUR WAYS from WHITIN Even-Draft* Drawing

1. Increased production
2. More uniform sliver
3. Lower costs in drawing and subsequent operations
4. Better quality yarn and fabric

Partial view — installation of 264 deliveries of Whitin Even-Draft Drawing at Riegel Textile Corp., Trion, Ga.

Mill after mill is proving that Whitin Even-Draft drawing provides 4-way benefits. Operating at 400 feet per minute Even-Draft drawing frames produce extremely uniform sliver — reduce floor space and direct labor cost by as much as 50%. The improved sliver, and consequently better roving, results in greatly improved spinning room performance. Mills also report fewer ends down, increased yarn breaking strength and evenness. Weaving operations benefit from stronger yarn and mills agree that fabric quality has improved following the installation of Whitin Even-Draft drawing frames.

Now installed in more than 150 mills in more than 40 countries, these frames continue to make profits for their users.

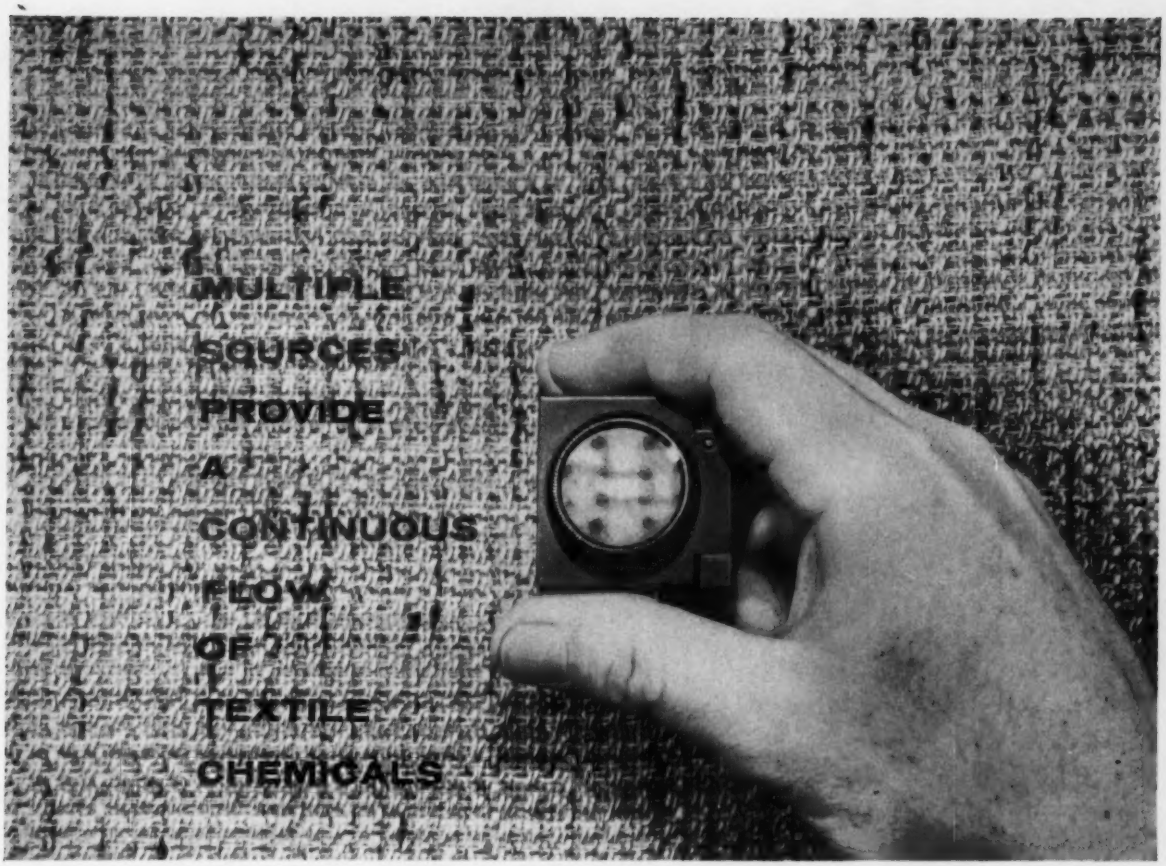
*Trade Mark

For complete information ask your Whitin representative or write direct to us.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Carbon Disulfide, Caustic Soda, Sodium Sulfhydrate (Sodium Hydrosulfide) and Sulfuric Acid are in constant demand.

It has long been Stauffer policy to provide these essential textile chemicals in a steady stream.

Stauffer plants in Virginia, Tennessee, Pennsylvania, Ohio, Western New York and Alabama are the chief sources for the Textile Industry.

A traffic department of professional skill maintains daily contact with the movement of chemicals by truck, tank car and barge.

Top quality chemicals, tremendous capacity, multiple sources, skilled and conscientious traffic control have made us many satisfied customers in the Textile Industry.

We're looking for more!

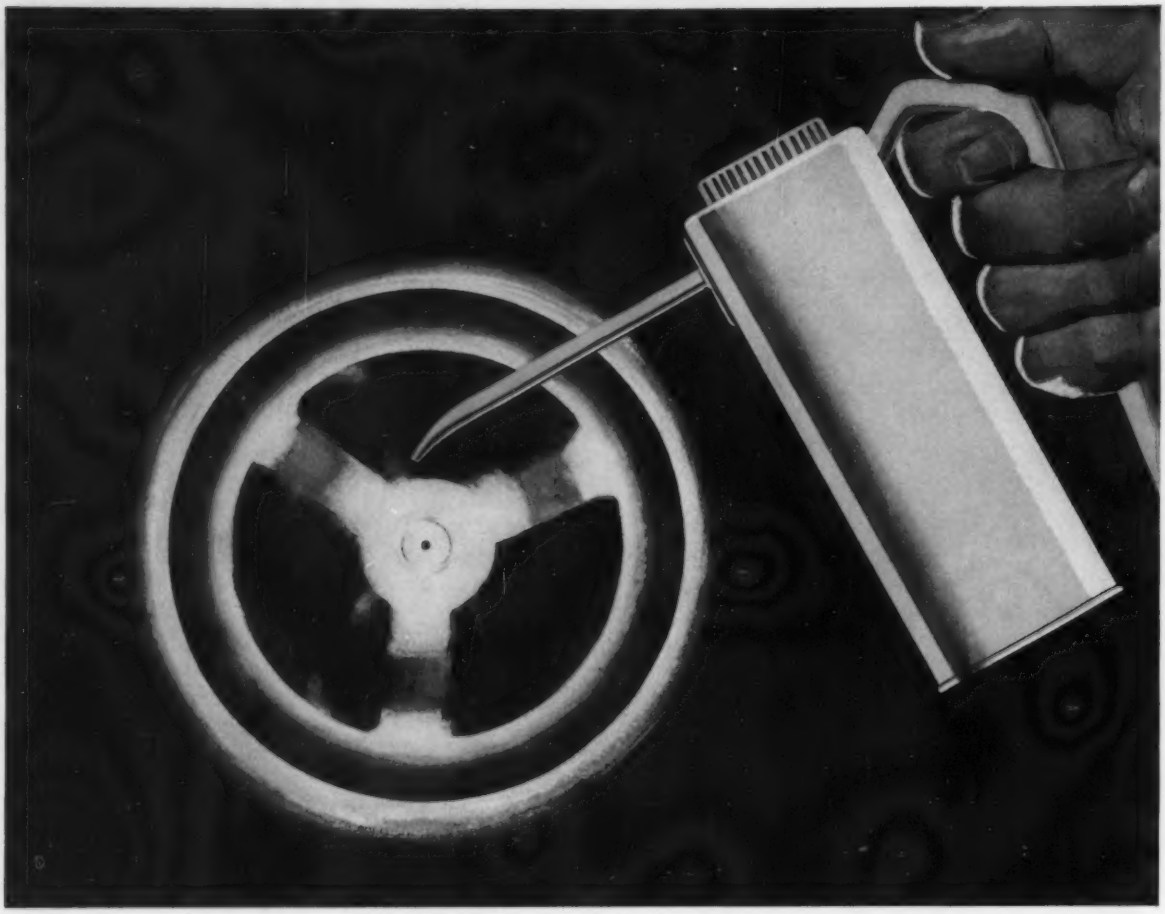
Especially, we'd like to hear from people who can utilize Stauffer's Technical Service on handling, safety and materials of construction for these important textile chemicals. Stauffer is the country's leading producer of Carbon Disulfide, one of the largest producers of Sulfuric Acid and Sodium Sulfhydrate, and a major producer of Caustic Soda.

Stauffer CHEMICALS SINCE 1885

STAUFFER CHEMICAL COMPANY

380 Madison Avenue, New York 17, New York
Prudential Plaza, Chicago 1, Illinois
624 Wilshire Boulevard, Los Angeles 17, California
636 California Street, San Francisco 8, California
P. O. Box 9716, Houston 15, Texas

SOUTHERN OFFICE: Stauffer Chemical Company, 2350 Palmour Drive, N. E., Atlanta 5, Georgia



Setting new standards in textile machine lubrication

NEW SHELL VEXILLA OILS

To assure high compatibility with today's synthetic fabrics, a completely new line of premium-quality textile machine lubricants has been developed—NEW SHELL VEXILLA OILS. These new oils are available in a wide viscosity range to satisfy all operating requirements.

Check these outstanding advantages:

1. Excellent Scourability—New Vexilla® Oils are *easily* and *readily* removed through conventional scouring procedures . . . completely eliminate oil stain problems.

2. High Oxidation Resistance—New Vexilla Oils contain special oxidation inhibitors to prevent increase of viscosity during service and storage. High viscosity index base oils minimize thinning out at high temperatures.

3. Eliminate Bearing Corrosion—New Vexilla Oils contain a newly developed rust inhibitor which keeps bearings *clean* and *free from corrosion*.

4. Non-Gummy—New Vexilla Oils contain no fixed oils such as lard, tallow and sperm oils to cause gumming. In automatic lubricating systems, they will not form harmful metallic soaps when in contact with zinc or copper.

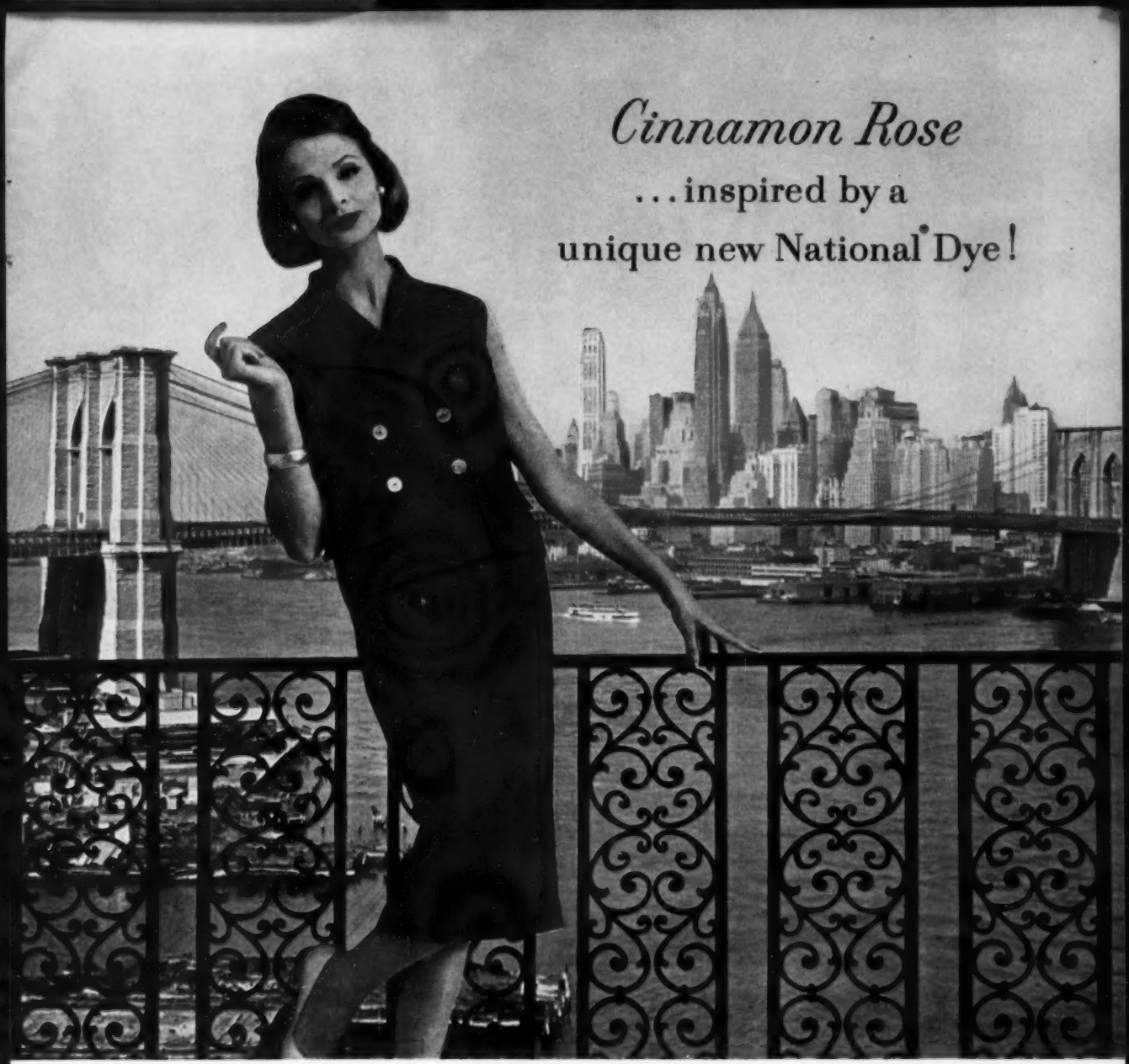
5. Outstanding Wetting Properties—New Vexilla Oils offer superior metal-wetting properties because of the carefully engineered balance of components and polar character.

The Shell Industrial Products Salesman will be glad to show you how to reduce maintenance costs and assist in the selection of the appropriate grades for *your* plant operation. Write Shell Oil Company, 50 West 50th Street, New York 20, New York. In Canada: Shell Oil Company of Canada, Limited, 505 University Avenue, Toronto 2, Ontario.

NEW SHELL VEXILLA OILS

. . . quality textile machine lubricants

SHELL



Toni Owen
chose this spicy new red
to create a cheerful little ensemble
in wicker-weave cotton.

Some of the brightest reds possible on cottons and rayons are dyed with NATIONAL SCARLET YC BASE.

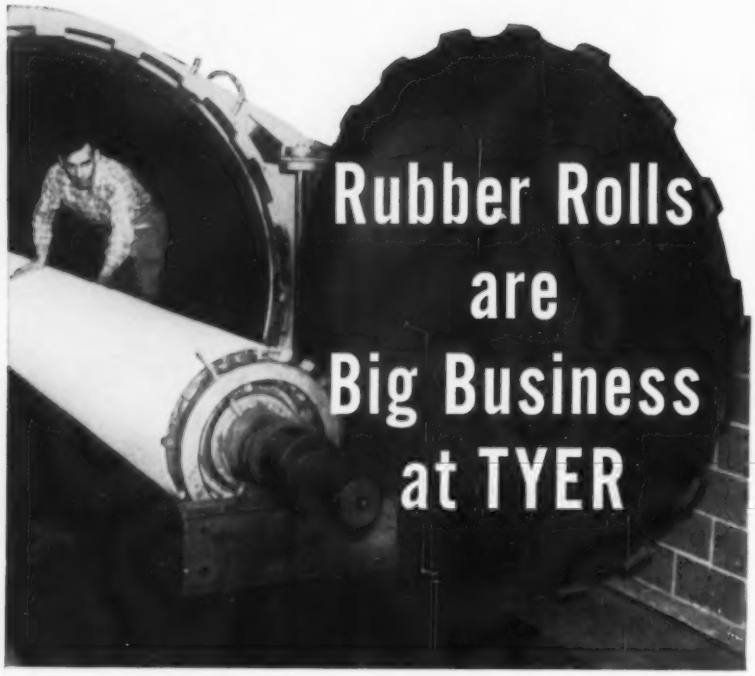
Combining remarkably high tinctorial value and excellent all around fastness, this versatile new naphthol dye is especially notable for outstanding resistance to light and washing.

NATIONAL SCARLET YC BASE is another development in our continuing program to provide the best domestic dyes and technical service for the American textile industry.

DYE BULLETIN No. 450 AVAILABLE

NATIONAL ANILINE DIVISION
40 RECTOR STREET, NEW YORK 6, N. Y.
Atlanta Boston Charlotte Chicago Greensboro Los Angeles
Philadelphia Portland, Ore. Providence San Francisco
In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 14

Allied Chemical



Tyer's expanded facilities for covering rubber rolls include the huge new vulcanizer shown above. 37 feet long, it has an inside diameter of 7 feet. Tyer grinders now accommodate rolls up to 60 inches in diameter and 366 inch face.

Tyer roll fabrication ranges in scope from tiny 1-ounce envelope rolls to giant suction press rolls used by paper mills. Hundreds of different compounds have been developed for our customers to take care of the functions to be performed by each individual roll.

In more than 30 years of roll manufacturing, Tyer has found the answer to many difficult rubber roll problems. Chances are, we can solve *your* problems, too. Write today for free brochure or a visit from a Tyer sales engineer.

TYER *Rubber Company*

ANDOVER, MASSACHUSETTS, U. S. A.

MILL NOTES

(from page 22)

A total of sixty supervisors from **Joanna** (S. C.) **Cotton Mills Co.,** attended the industrial management workshop recently held at Presbyterian College, Clinton, S. C. Sponsored by the South Carolina State Chamber of Commerce, the program was designed to bring together operating supervisors and personnel managers for a practical discussion of labor relations.

Two additional scholarships for the Brevard, N. C., Junior College have been awarded members of the 1959 graduating class at the local high school by **Herbert Mills, Inc.,** Marion, S. C.

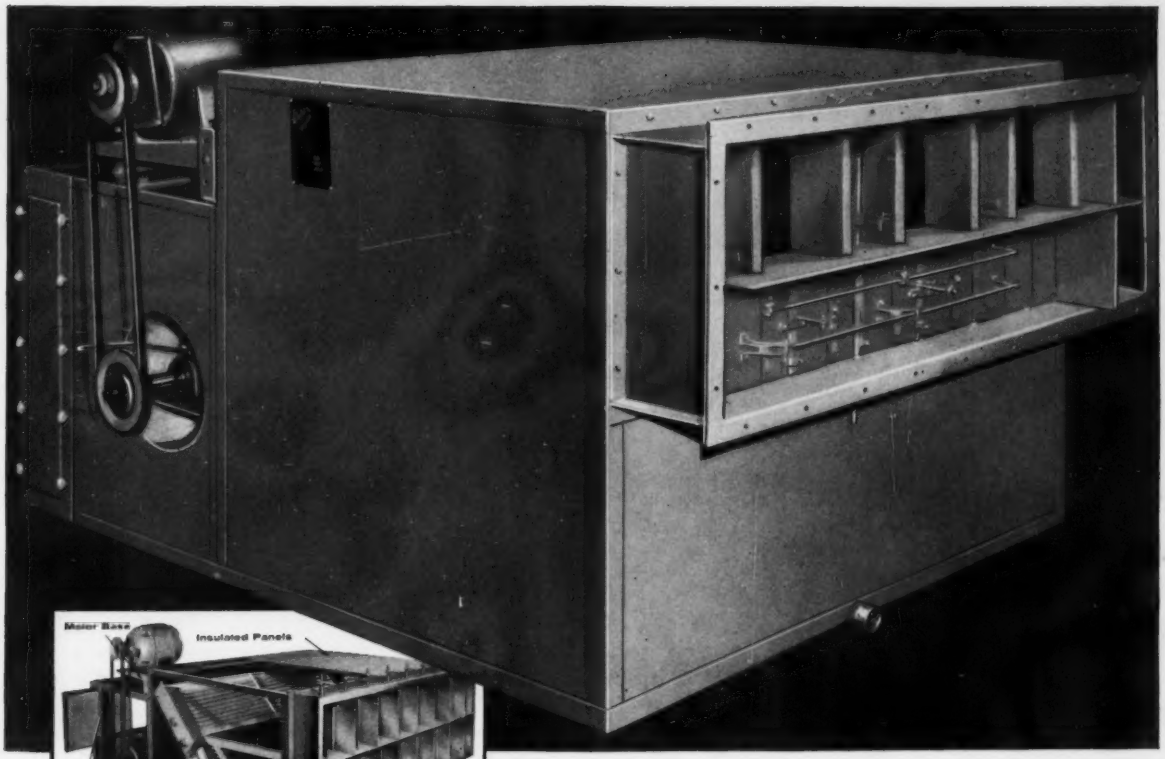
A $400,000 expansion program is underway at the **Hanes Dye & Finishing Co., Inc.,** of Winston-Salem, N. C. Two separate additions to the plant will be made to give about 55,000 additional sq ft of manufacturing and storage space.

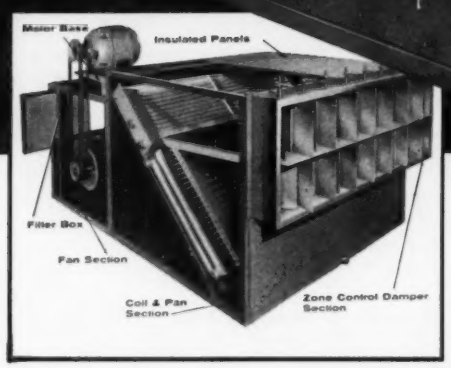
Shannon Hosiery Mills, Inc., Concord, N. C., a subsidiary of Chadbourn Gotham, Inc., has opened a new plant in the old Hoover Hosiery Mill building on Kerr St. Additional seamless hosiery knitting machines are being installed, and the company expects to increase employment to more than 100 by the end of the year. Nelson C. Sikes is superintendent.

Summers Hosiery Mill, Salisbury, N. C., has taken the first step in a five-year expansion program which will double the production of the plant. A 1500 sq ft building is being constructed. When it is completed the plant will employ about 75 persons on a year-round basis, plus about 25 more during the five-month season when leotards are produced on the full-fashioned machines.

At a recent meeting of the Blue Ridge Safety Council, the Gastonia, N. C., plant of **Firestone Textiles,** division of Firestone Tire & Rubber Co., was acclaimed for its "outstanding achievement in industrial accident control"—3 million man-hours without a lost-time injury. * * * A safety promotion contest which ended on August 31 offered cash prizes for the eight best slogans of twelve words or less submitted by employees. There was no limit on the number of entries, and slogans were to be judged for content and originality.

(Continued on page 38)





ACCURATE TEMPERATURE CONTROL PROVIDED BY "BUFFALO" ZONE CONTROL CABINETS

"Buffalo" Zone Control Cabinets are engineered for installations where a single unit must provide varying degrees of conditioned air for several zones or rooms. These quiet operating compact units perform with peak economy, flexibility and dependability.

Temperature is controlled by mixing cooled and heated air in just the right proportions to suit each conditioned space. The need for separate re-heat coils and their controls is completely eliminated. Control for each area can be manual or entirely automatic.

"Buffalo" Zone Control Cabinets are sectionalized for maximum ease of installation. Removable panels and bearings located outside the cabinet simplify servicing. The entire unit is sturdily constructed to insure a long life of maintenance-free operation.

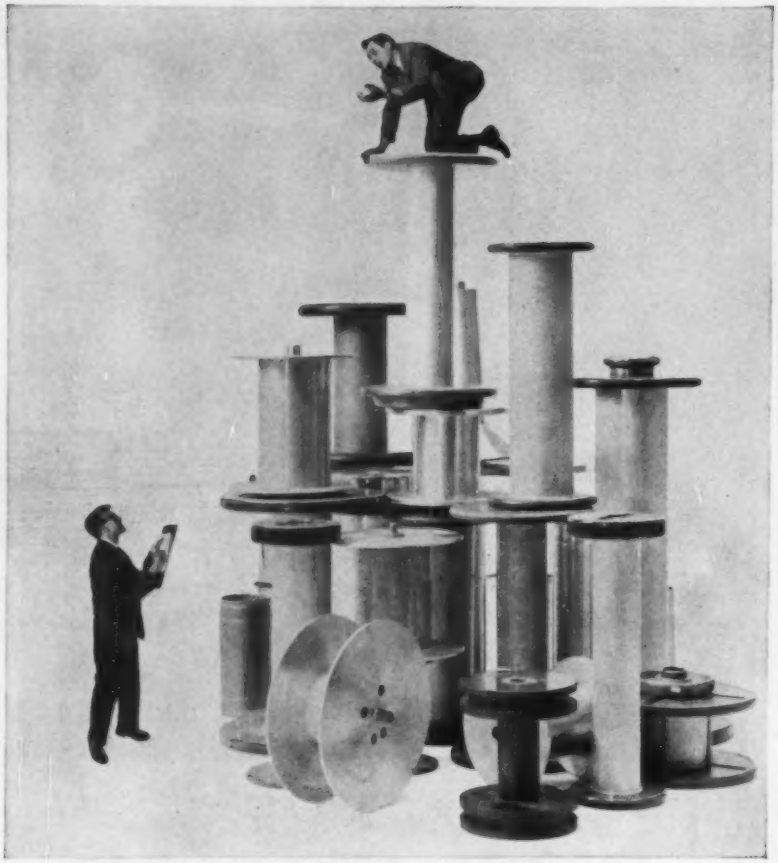
You're sure of satisfactory results when you specify "Buffalo" Zone Control Cabinets. Your "Buffalo" engineering representative will be pleased to provide you with information concerning unit selection, installation, etc. Contact him, or write us direct for Bulletin AC-220.

All "Buffalo" equipment brings you the "Q" Factor — the built-in QUALITY which provides trouble-free satisfaction and long life.

BUFFALO FORGE COMPANY
BUFFALO, NEW YORK

Buffalo Pumps Division • Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING • AIR CLEANING • AIR TEMPERING • INDUCED DRAFT • EXHAUSTING
FORCED DRAFT • COOLING • HEATING • PRESSURE BLOWING



GOT A BOBBIN PROBLEM...?

With higher speeds? bigger packages? longer life?
moisture? drive accuracy? balance? finishes?
synthetic yarns? pressures? other problems?

No one understands your need for bobbin design that is exactly right for your yarns, and bobbin performance that is 100% dependable, as intimately as we at the Lestershire Division of National. That's why we gear all of our manufacturing skills and services to your bobbin problem . . . not just to the manufacture of one convenient "standard" line.

Our factory representatives take pains to study your processes. Our designers work with infinite precision, and test and re-test to assure maximum bobbin concentricity and service life. Every development in yarns is followed to keep abreast of changing bobbin requirements. We know the textile field is too competitive for you to risk the cost of poor bobbin performance, or inferior quality.

Finally, we price all Lestershire Bobbins and Spools based on built-in quality giving top performance, long life, and operating economy.

Why not toss that bobbin problem at us . . . *today?* You can get in touch with us through any of the addresses below. Or contact your nearest National sales office. Dept. W-9.

LESTERSHIRE SPOOL DIVISION
NATIONAL VULCANIZED FIBRE CO.
WILMINGTON 99, DEL. • *Plant:* 140 Baldwin St., Johnson City, N. Y. • *In the south:* Odell Mill Supply Co., Greensboro, N. C. • Greenville Textile Supply Co., Greenville, S. C.

MILL NOTES

(from page 36)

Somerset Knitting Mills, Inc., Philadelphia, Pa., has acquired an additional entire floor in the building it now occupies, in a major expansion move. Additional knitting and sewing equipment is being installed, and automatic conveyors between floors are being provided.

Richline Knitting Mills, Philadelphia, Pa., in order to rearrange its production method, has added another floor of 4,000 sq ft to its plant.

World Carpet Mills, Dalton, Ga., has completed its third addition in two years—a 20,000 sq ft unit. With equipment this new facility to increase production cost the company about $415,000.

A 20,000 sq ft addition has been completed at the Brooklyn, N. Y., plant of **Pickwick Knitting Mills** for installation of more knitting machines and auxiliary equipment. At the Lansdale, Pa., plant 5,000 sq ft of space in an adjoining building has been obtained for increasing production.

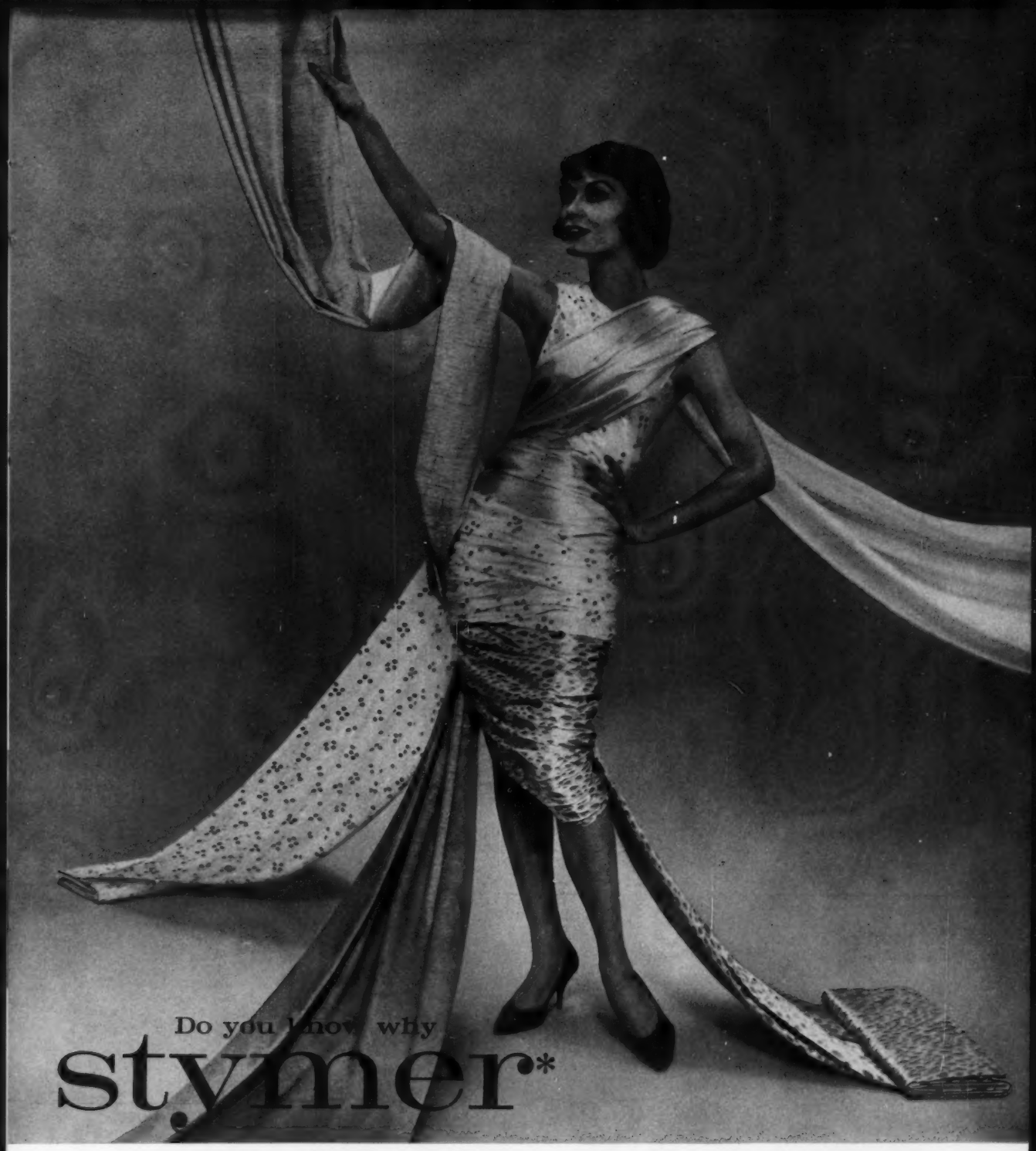
The new plant being constructed at Brunswick, N. C., for **National Spinning Corp.** is scheduled for occupancy this fall.

Woodside Mills, Greenville, S. C., recently installed 100 shuttleless looms in No. 4 weave room. * * * A 550-ton refrigeration unit is being installed to fully air condition the No. 1 card room, basement spinning, and the cloth room.

Kayser-Roth Corp., New York has announced acquisition of 94½% of the outstanding shares of **Phoenix Hosiery Co.,** Milwaukee, Wis. Phoenix will operate as a separate division of Kayser-Roth, and production of seamless hosiery will be increased. Frazier MacIver will continue as president.

A new firm, **Fairhaven Mills,** Pickens, S. C., has awarded a contract for construction of a $250,000 plant to produce blended yarns. It is contemplated that about 100 people will be employed when equipment has been installed and operation started. President of the mill is Henry M. Haskell.

(Continued on page 42)



success in sizing filament acetate can be measured

by the billions? Stymer S has contributed to the successful weaving of billions of yards of fine taffetas, twills, French crepes, tissue failles, satins and shantungs. This synthetic resin size has unusual uniformity, toughness, and flexibility. Its non-souring stability permits large batches to be made up at one time. Stymer S solutions don't gel when cold, won't clog pipes or valves. Leasing in the size is standard practice. Slashing is clean and efficient. De-sizing is easy and complete even with long-stored cloth. For complete technical data, samples, and cost-saving facts, write to Monsanto Chemical Company, Plastics Division, Room 200, Springfield 2, Massachusetts.

*STYMER, RESLOOM, LYTRON: REG. U.S. PAT. OFF.

Monsanto

Other Monsanto textile chemicals: Resloom* E-63 chlorine resistant resin; Resloom E-50 cyclic urea resin; Resloom HP and M-75 melamine resins; AC catalysts; Lytron* Polystyrene latices

Good fabrics
begin
with good warps...
Good warps are
made on these
Kidde
machines
KIDDE CREELS
Custom built to your requirements. Will handle any package made today.
FOR KNITTING:
Deliver from the Kidde creel to one of the Kidde Tricot warpers (there's one for every size spool). Finish the operation on a Kidde Knitter.
KIDDE WARPER
Versatile . . . for all yarns. Smooth operation — easy doffing.
Kidde

KIDDE SLASHERS
For cotton or silk system slashing . . . constructed to meet your requirements.

Here's the formula for good warps . . . Start with any package . . . put it on a Kidde creel . . . deliver it to a Kidde warper . . . run it thru a Kidde slasher. You'll then have the kind of warp essential to the production of top quality fabrics. Of course, the creels, warpers and slashers may be used separately . . . but, for the finest results, maximum versatility and highest production they're designed to work together.

The key to any warping operation is accurate, uniform tension. To set the proper tension for the yarn being run, and for checking it during operation, Kidde Tensometers are essential. There's a full line of them; one is just right for every tension problem.

Want complete information on how to get the most out of your warping operation? Write to Kidde for literature describing the finest equipment made.

TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

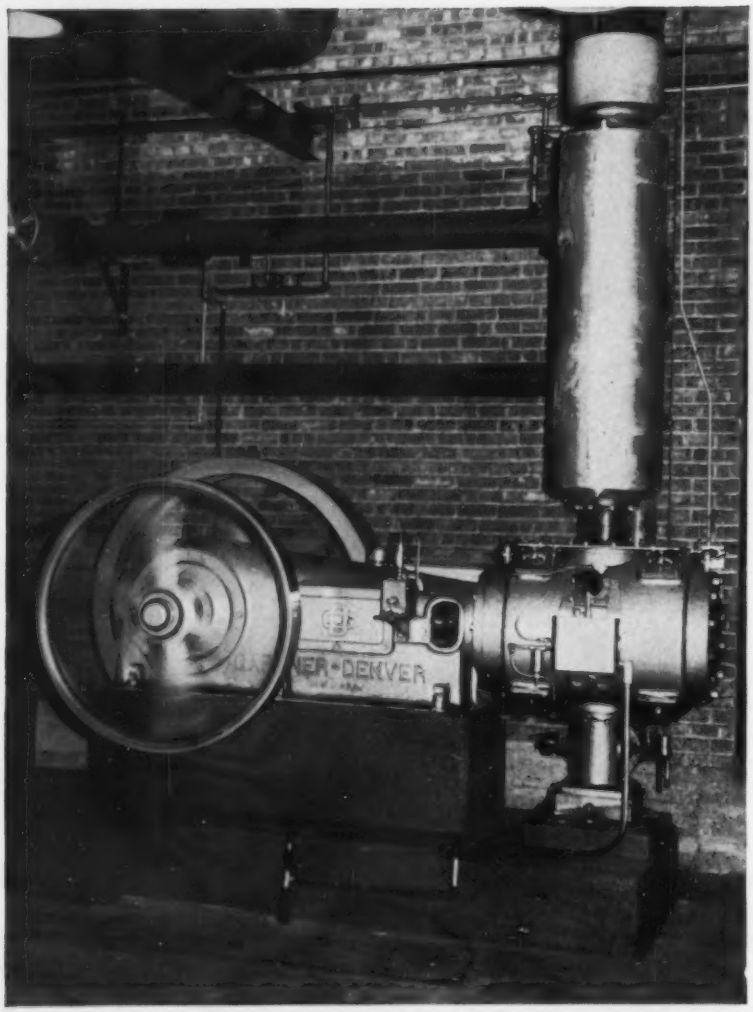
EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

GARDNER DENVER

For continuous compressed air power, install the Gardner-Denver RX compressor. It assures years of reliable service . . . requires only routine attention. The sturdily engineered, dirt-free power end—that's one reason. And behind the scenes at Gardner-Denver, cleanliness in every step of assembly is another key to endurance. Rigorous testing assures years of efficient, trouble-free performance. Get the full story on RX superiority for 'round-the-clock service. Write for Bulletin HAC-40. Gardner-Denver Company, Quincy, Illinois.

Built for the long run

Gardner-Denver RX



MILL NOTES

(from page 38)

Seventeen argyle knitting machines will be housed in the new 900 sq ft building being built by **Menzies Hosiery Mills, Inc.,** Hickory, N. C.

Rosemont Knitting Mills, Inc., Philadelphia, Pa., has increased its capitalization to finance an expansion program. Some new machines already have been purchased, and the number of employees increased accordingly.

Barringer Knitting Mills, Inc., Philadelphia, Pa., has leased 82,000 sq ft of space at 1215 Glenwood Ave. where manufacturing operations will be consolidated on a single floor.

Carleton Woolen Mills, Inc., Rochdale, Mass., has begun a million-dollar expansion program to include a 30,000 sq ft building to expand the carding and spinning departments. Plans call for a dyeing operation, which will be new to the plant.

Construction has begun at the **Madison (N. C.) Throwing Co.** plant to provide approximately 15,000 sq ft of space to be used primarily for shop and storage facilities.

Announcement has been made by **Dan River Mills, Inc.,** that a clubhouse and swimming pool will be built at its Glen Oak Club for employees in Danville, Va.

Dodgeville Finishing Co., Inc., has introduced a new finish for cotton and synthetic blends used in the manufacture of lingerie. Called "Endura-Set," it is reported to impart a feeling of smoothness and silkiness to the fabric.

J. P. Stevens & Co., Inc., has taken over the active management of **Borden Mills, Inc., at** Kingsport, Tenn. The plant has become a part of the Greenville group of the cotton division.

Installation of the first of 24 new argyle machines has been announced by **Boyd Lee Hosiery Mill, Inc.,** Hickory, N. C. The company is spending $125,000 on new equipment for product diversification.

The Gastonia, N. C., finishing plant of the **Wisteria Hosiery Mills, Inc.,** has been closed. Operations

have been consolidated with Wisteria's hosiery finishing plant in Saluda, S. C.

Samuel Hird & Sons, Garfield, N. J., have purchased **Frank Ix & Sons Sheraton Mills Corp.** plant in Cornelius, N. C., for expansion of operations.

All operations of **Beddington Hosiery Mill, Inc.,** Hickory, N. C., have been consolidated in a new building at Second St. Place and Second Ave., N. W. at 14th Ave. 15,500 sq ft of completely air conditioned space are utilized.

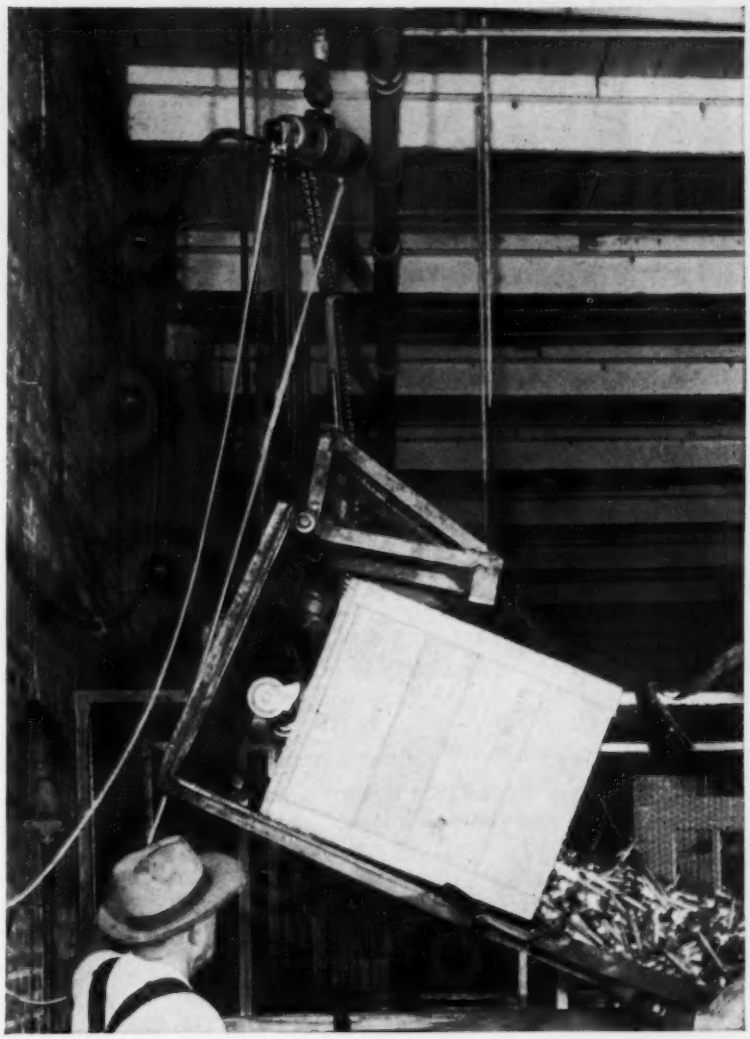
Employees at **Laurel Mills,** Rutherfordton, N. C., have been cited for their outstanding safety record. A total of 1,121,761 man-hours recently were completed without a disabling injury.

Full-fashioned ladies sweaters are being produced at the weekly rate of 250-300 dozen by **Suburban Knitting Mills,** West Hollywood, Fla. Joseph Freund is head of the plant.

A new firm, **Chaplain Combing,** is in operation at Millville, Mass., having leased 20,000 sq ft of space in the building formerly occupied by U. S. Rubber Co. President is Ferdinand Gladu; treasurer is Eugene Gladu.

A tufted rug manufacturing firm, **Charm Tred Mills** of Chicago, Ill., has been purchased by **Burlington Industries, Inc.** It will operate as a division of Burlington under the Charm Tred name with Ben Greenberg as president. No change in management or operating personnel is contemplated, according to Mr. Greenberg. * * * At Burlington's Steele Plant of Klopman Mills in Cordova, N. C., construction soon will begin on a new building to house equipment to better balance production facilities. * * * A $750,000 building program has been initiated for the company's plants in the Burlington, N. C., area as follows: A 25,000 sq ft addition to the warehouse at Decorative Fabrics Finishing Co. Division of Burlington House Fabrics Co.; enlargement of the finishing plant and a new office building at Mayfair Textile Co.; expansion of administrative offices for the Transportation Division; the McEwen Hosiery Co. plant is to be converted into a hosiery distribution center to provide more space for the Interstate Division; present building occupied by the Interstate Division is to be remodeled for expansion of

(Continued on page 48)



Handy air hoist

speeds quill stripping

This versatile Gardner-Denver air hoist quickly and safely lifts and dumps hand trucks loaded with quills into automatic stripping machine—saving both time and effort. This is just one of dozens of textile uses for this handy, lightweight hoist. Nonsparking air motor makes Gardner-Denver air hoists absolutely fire-safe. And they're unaffected by moisture. In addition, you get a quick, steady lift every time. Capacities from 150 lb. to two tons. Write for Bulletin 80.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

GARDNER DENVER

Gardner-Denver Company, Quincy, Illinois

Branch Offices: Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D.C.; Teterboro, N. J. (New York Office); Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.; Louisville, Ky.

#5 in a series reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

In previous advertisements in this series we have "ticked off" various aspects of Arnel's outstanding success among today's fibers. One factor that constantly recurs is that of convenience to the consumer.

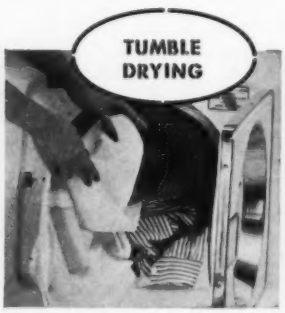
Arnel's ease of handling, processing and styling flexibility are well known to mills and converters. But Arnel's consumer convenience—wash-and-wear, ease-of-care—is what makes the sale—and keeps it sold. Consider the convenience of little or no IRONING.

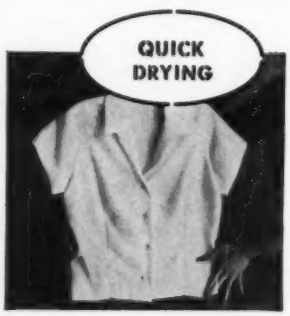
To the consumer:

1. Many Arnel triacetate fabrics, such as jerseys, require no ironing after machine laundering and extracting. Others require varying degrees of touch-up ironing.
2. Fabrics made of Arnel may be ironed safely at temperatures up to 450° F. without any damage. This corresponds to the average wool—cotton setting on an automatic iron.
3. They may be ironed while dry. A steam iron may also be used.
4. The high heat resistance of fabrics containing Arnel produces excellent resistance to glazing as a result of ironing.
5. All fabrics carrying the official Arnel symbol have been pretested for performance claimed—including safe ironing temperature (Tests are conducted free of charge by the Celanese Corporation of America.

To take advantage of the great consumer acceptance of Arnel, let Celanese work with you to develop new construction in Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Corporation of America, Box 1414, Charlotte, N. C. Celanese® Arnel®

District Sales Offices: 180 Madison Ave., New York 16, N. Y.; Room 10-141 Merchandise Mart, Chicago 54, Ill.; Western Merchandise Mart, Room 478, San Francisco, Calif.; P. O. Box 1414, Charlotte 1, N. C.; 200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.
Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.
In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec





Arnel . . . a

IRONING-
NO PROBLEM

ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber

PROVEN SUPERIOR

In actual day to day operation where the real worth of machinery is tested, Sims new Stainless Steel 75 psi reversed dished head 44 Dry Cans* are proven superior. They require less horsepower . . . are easier on bearings . . . and save floor space with no loss in drying surface. And the chain drive is on one side of the can, while the steam fittings are on the other side . . . permitting maintenance of the drive without time lost waiting for steam pipes to cool.
Furnished Teflon-coated if desired.

FOR ECONOMY AND QUALITY. Our modern and progressive metal-working shops, our skilled craftsmen, our know how—these are guarantees of quality. For custom tailoring of stainless steel, call, wire, or write *now*.

*U.S. PAT. OFF. NO. 2779104

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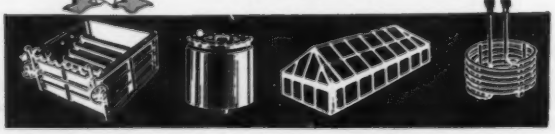
Fabricated and installed at Lanett Bleachery and Dye Works, Lanett, Alabama by Sims Metal Works.

Sims
METAL WORKS
WEST POINT, GEORGIA



Harley D. Hohm, Inc., 128 Bulat Ave., Greenville, S. C.

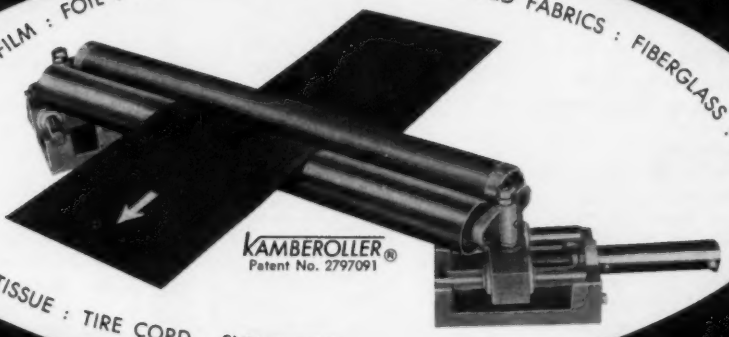
Friday Textile Machine & Supply Co., Gastonia, N. C.

FABRICATORS SINCE 1928

for AUTOMATIC CLOTH GUIDING...

giants of industry the world over . . . look to **FIFE** to solve their problems!

PAPER : FILM : FOIL : LAMINATES : TEXTILES : RUBBERIZED FABRICS : FIBERGLASS : FOAM



PAPER BOARD : TISSUE : TIRE CORD : SYNTHETICS

· *FIFE has solved, successfully and practically, every conceivable type of automatic, flexible material-guiding problem . . . and maintains nationwide sales and service by factory-trained FIFE experts and engineers. A company which needs FIFE automatic guiding equipment is already paying for it.*

Your inquiry will receive our immediate attention.

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MANUFACTURING Company
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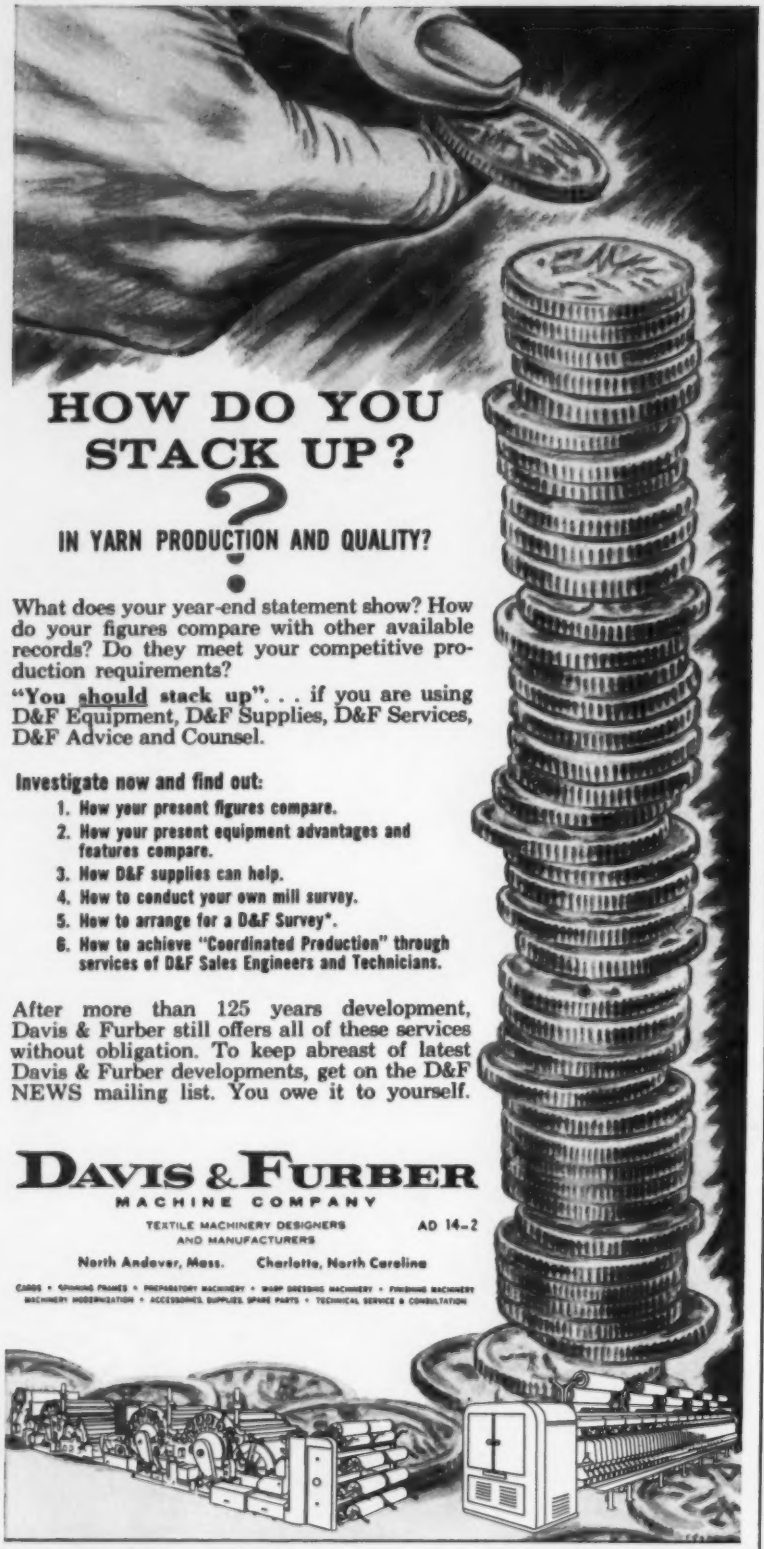
P. O. BOX 9815 OKLAHOMA CITY 18, OKLAHOMA


HOW DO YOU STACK UP?
?
IN YARN PRODUCTION AND QUALITY?
What does your year-end statement show? How do your figures compare with other available records? Do they meet your competitive production requirements?
"You should stack up". . . if you are using D&F Equipment, D&F Supplies, D&F Services, D&F Advice and Counsel.
Investigate now and find out:
1. How your present figures compare.
2. How your present equipment advantages and features compare.
3. How D&F supplies can help.
4. How to conduct your own mill survey.
5. How to arrange for a D&F Survey*.
6. How to achieve "Coordinated Production" through services of D&F Sales Engineers and Technicians.
After more than 125 years development, Davis & Furber still offers all of these services without obligation. To keep abreast of latest Davis & Furber developments, get on the D&F NEWS mailing list. You owe it to yourself.
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CARDS • SPINNING FRAMES • PREPARATORY MACHINERY • SHARP DRESSING MACHINERY • FINISHING MACHINERY
MACHINERY MODERNIZATION • ACCESSORIES, SUPPLIES, SPARE PARTS • TECHNICAL SERVICE & CONSULTATION

An objective, impartial D&F Survey by mill-trained technicians often reveals unsuspected inconsistencies. At the same time, a study of all production phases can produce a long or short range plan for expansion in accordance with time and budget requirements.

MILL NOTES

(from page 43)

hosiery finishing operations of May Hosiery Finishing Co. which is also being modernized with a new entrance on South Main St. and a new employee parking lot.

An expansion and readjustment program has been announced by the **Hudson Hosiery Co.,** of Charlotte, N. C. Less full-fashioned hosiery will be made and more seamless. Knitting soon will be stopped at the Oakhurst plant and finishing operations will be transferred from the Shelby, N. C., plant to Oakhurst. Production of seamless hosiery will be increased at the plant in Shelby as fast as new machinery can be installed. Operations will continue unchanged at the Brevard St. plant in Charlotte.

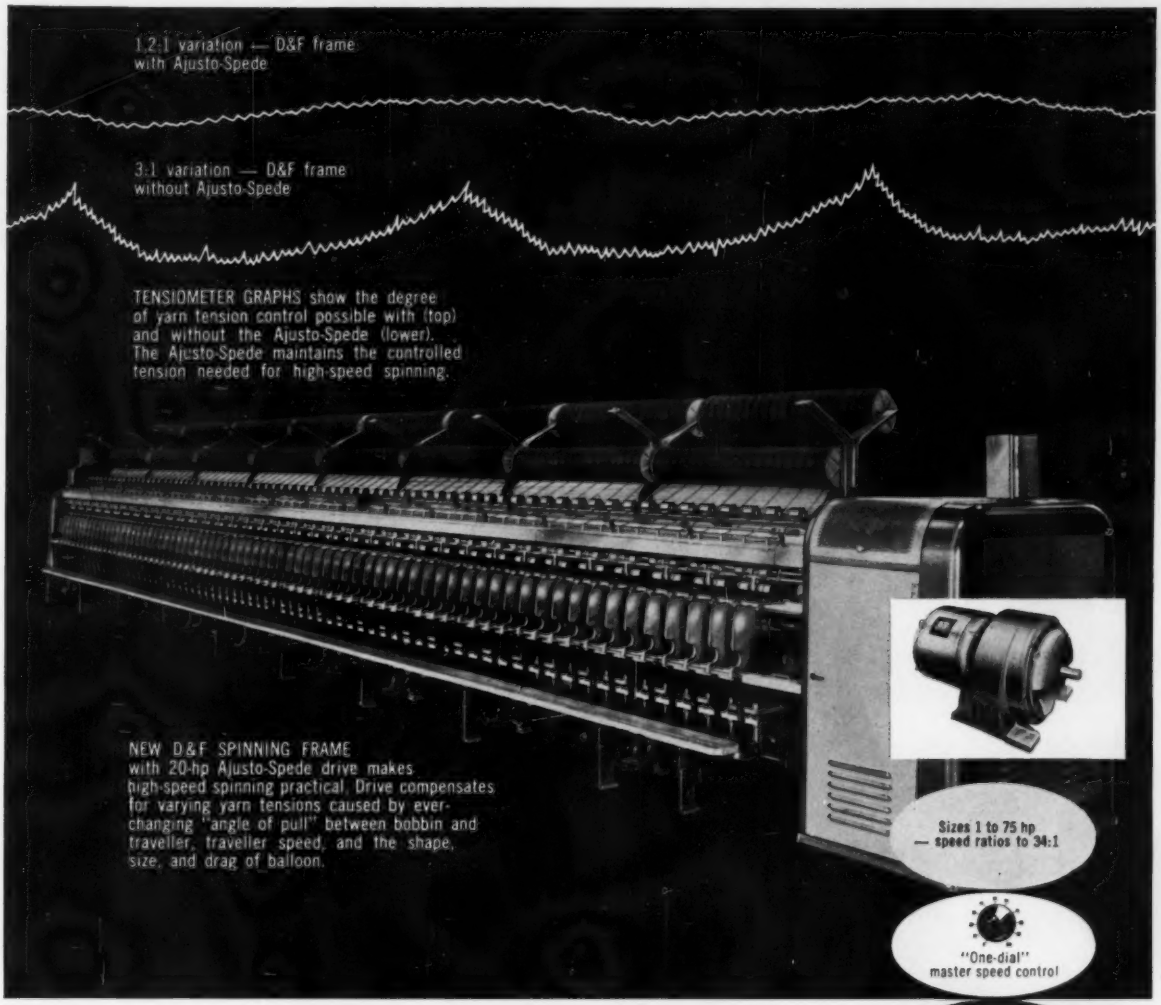
Controlling interest in **Chiquola Manufacturing Co.,** Honea Path, S. C., has been obtained by M. Lowenstein and Sons, Inc.

A newly chartered company, **Dixon Weavers, Inc.,** Hickory, N. C., has purchased stock and equipment of Valdese Weavers, Inc., pile fabric division. Upholstery material is being produced by the firm which is headed by Joseph B. Dixon.

Plans to build a new plant in Galax, Va., have been made by **The P. H. Hanes Knitting Co., Inc.** The modern, one-story building containing approximately 150,000 sq ft of floor space will enable the company to consolidate its Galax operations, afford more efficient operating conditions, and provide improved working conditions.

Employees of **Elk Cotton Mills,** Fayetteville, Tenn., have been advised of the company's plan to sell 32 company-owned houses to employees and use the proceeds to strengthen its pension plan for retiring employees.

A new building has been completed between the card room and dyed yarn-winding building at **Cross Cotton Mills Co.,** Marion, N. C., for in-process yarn storage. Another building under construction will house refrigeration and air conditioning equipment for the card room. Additional opening and picking equipment is being installed.


1.2:1 variation — D&F frame with Ajusto-Spede
3:1 variation — D&F frame without Ajusto-Spede
TENSIOMETER GRAPHS show the degree of yarn tension control possible with (top) and without the Ajusto-Spede (lower). The Ajusto-Spede maintains the controlled tension needed for high-speed spinning.
NEW D&F SPINNING FRAME with 20-hp Ajusto-Spede drive makes high-speed spinning practical. Drive compensates for varying yarn tensions caused by ever-changing "angle of pull" between bobbin and traveller, traveller speed, and the shape, size, and drag of balloon.
Sizes 1 to 75 hp — speed ratios to 34:1
"One-dial" master speed control

Keeps yarn tension constant... ups output at least 20%!

Louis Allis Ajusto-Spede® drive on Davis & Furber spinning frame minimizes "ends down"...cuts costs...improves quality of yarn!

The smooth, precise control of yarn tension by the electronically-controlled Louis Allis Ajusto-Spede drive permits high-speed spinning of wool yarn. The big gain in production achieved by the new Davis & Furber spinning frame proves it!

In-the-mill production records show that uniform yarn tension brings the following benefits:

1. More yards and pounds of yarn per spindle hour.
2. More uniform yarn density and build of bobbin.
3. Fewer "ends down" and less downtime.
4. Lower per-pound production cost.
5. Production increases of 20% and more!

The Ajusto-Spede can be used as a standard adjustable-speed drive — or it can be used to cycle the speed of the frame to keep yarn tension constant. It enables you to select optimum speeds for spinning any grade of wool. Fewer "ends down" allows more free time for the operator to tend additional frames. The operator can easily adjust the controls to provide the optimum speed for the particular grade of wool, and the Ajusto-Spede *responds smoothly and automatically!*

Our drive specialists can help you increase production — to improve the quality of your spinning, as well as all other textile operations. Call your nearby Louis Allis District Office for application help — or write The Louis Allis Co., 443 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

AS-109

MANUFACTURER OF ELECTRIC MOTORS AND ADJUSTABLE-SPEED DRIVES

921

'59

PREMIERE: "THE DU PONT SHOW WITH JUNE ALLYSON", CBS-TV

A night to remember. Monday, Sept. 21, at 10:30 PM, EDT, a brand-new dramatic show on 139 CBS-TV stations will help you sell millions of America's best textile customers. Exclusive Du Pont sponsorship. Week after week, viewers from coast to coast will see and hear about the proved performance of Du Pont nylon, "Dacron"* polyester fiber and "Orlon"* acrylic fiber ... keeping them miles ahead in consumer preference. The first show: "Those We Love", a powerful, appealing story starring Miss Allyson, with Ann Harding. Tune in, won't you? You'll enjoy it!

DU PONT NYLON · "ORLON" · "DACRON"
ACRYLIC FIBER POLYESTER FIBER
... MILES AHEAD IN CONSUMER PREFERENCE

DU PONT
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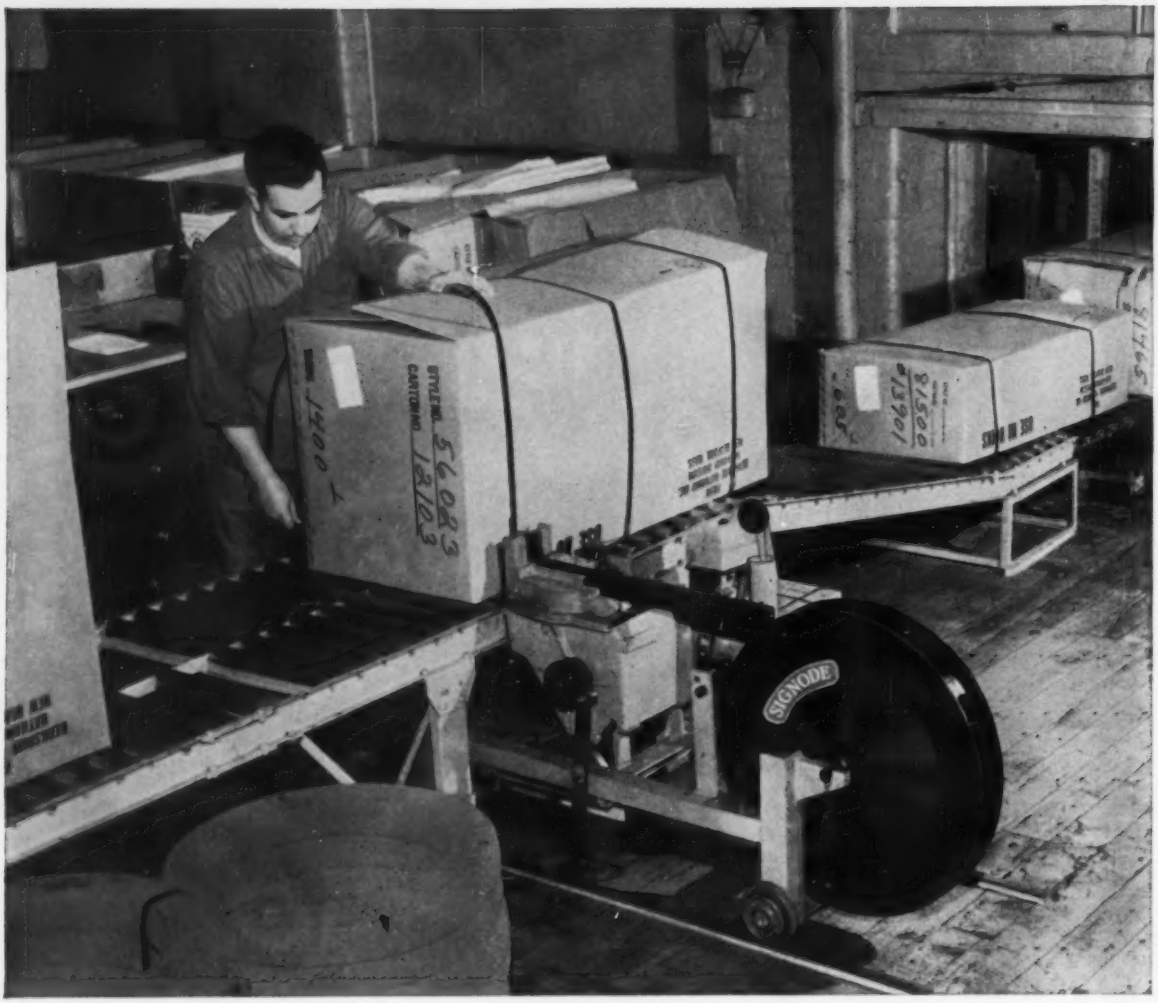
Better Things for Better Living . . . *through Chemistry*

*"Dacron" and "Orlon" are Du Pont's registered trademarks.



Signode PSM saves 8 man-hours per day

The Signode Power Strapping Machine applies each strap around these textile cartons in seconds...with right tension every time. The operator needs only seconds more to re-position the carton and feed the next strap.

Savings in time come to eight man-hours per day—equivalent to many times the Signode lease cost.

The Signode man can show you how strapping can save you money in many ways...with denser bales that save space and freight...with ways to eliminate wasted strap ends by using continuous feed. He can show you how to dress up your bales and cartons with seals that bear your trademark...show you new Signode machines, including air and electric power strapping tools and power strap feeders.

Make your product cost less to handle, store, ship, and receive. Call the Signode man near you, or write:

SIGNODE

First in steel strapping

SIGNODE STEEL STRAPPING CO.

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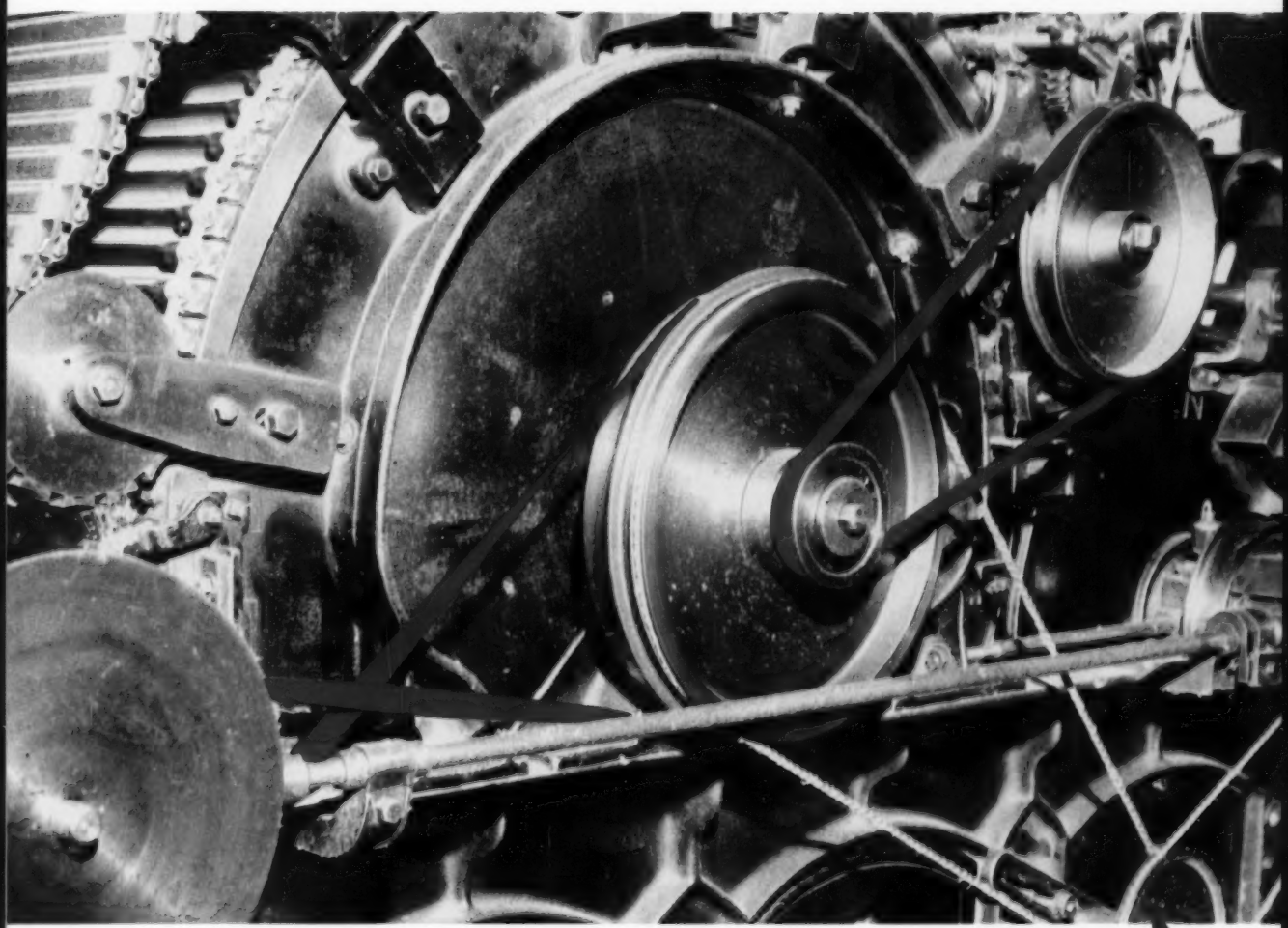
FOR
INCREASED
TEXTILE
MILL
EFFICIENCY

EXTREMULTUS

THE BELT THAT WON'T STRETCH... WON'T SLIP



THE BEST DRIVE AT THE LOWEST COST!

SEE ACTUAL ON-THE-JOB PHOTOS INSIDE!

EXTREMULTUS, INC., 25-11 40th Ave., Long Island City 1, N. Y.

EXTREMULTUS POWER

EXTREMULTUS is not merely a new name. It is a new *kind* of belt. It combines a polymer core — for strength and elasticity — with chrome tanned leather for high friction and flexibility. It is unique; it has never been successfully imitated.

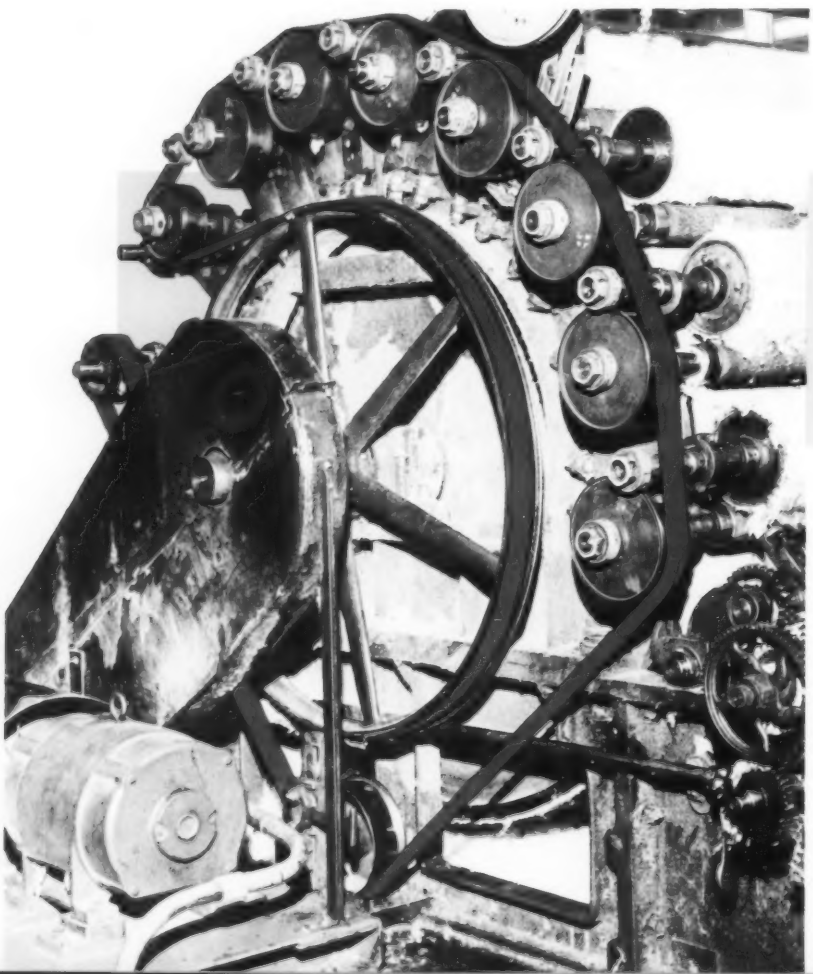
EXTREMULTUS belts have been job-proven in hundreds of textile mills and in many other industries. Mills that have tried it are now converting to EXTREMULTUS 100%.

NO-SLIP EXTREMULTUS MEANS MAXIMUM OUTPUT

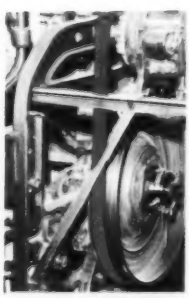
ELIMINATES START-UP PROBLEMS Won't stretch . . . won't stiffen around pulleys. No Monday-morning start-up problems . . . you get instant power transmission, with more output per shift.

KEEPS TENSION No need for belt take-up. The EXTREMULTUS polymer core is elastic, flexible . . . with NO PERMANENT STRETCH.

GIVES SMOOTH, CONSTANT SPEED At high or low speeds . . . and under the most severe conditions . . . EXTREMULTUS won't slap or chatter. It gives smooth, controlled power to improve every machine's performance.

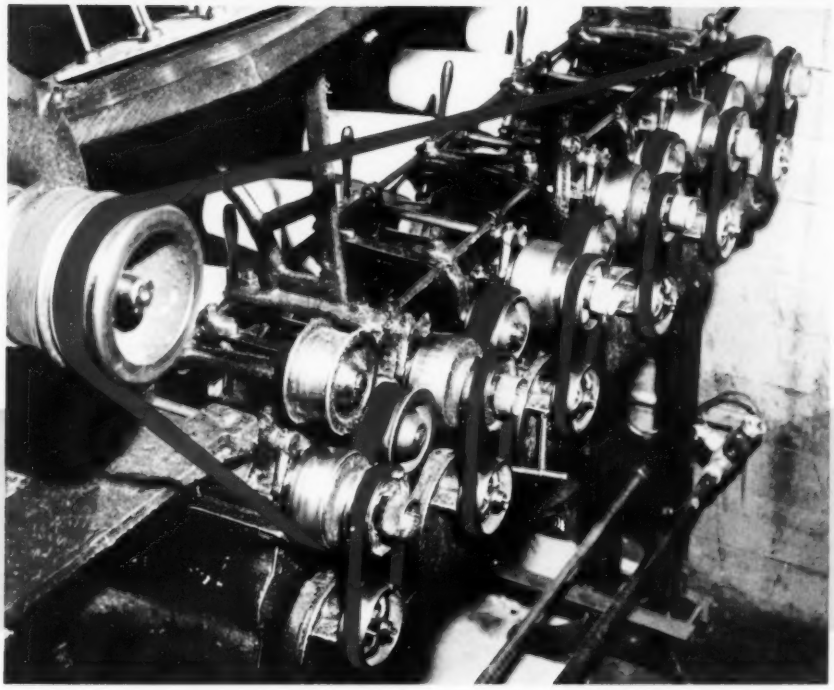


Woolen card stripper drive shows less down-time and more control of web because EXTREMULTUS has not stretched or slipped since installed . . . even with small arc of contact.



On loom drives EXTREMULTUS eliminates slip on start and stop, at higher ratios and shorter center distances. Ratios easily changed. Always a soft, positive start.

TRANSMISSION IN ACTION!



Constant spindle speed improves winding.

Oil from spindles will not cause EXTREMULTUS to slip.

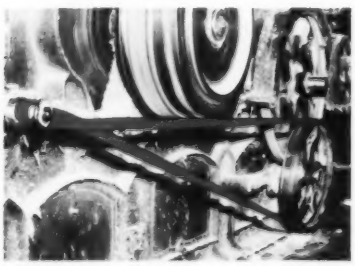
NO-STRETCH EXTREMULTUS ELIMINATES BELT TAKE-UPS

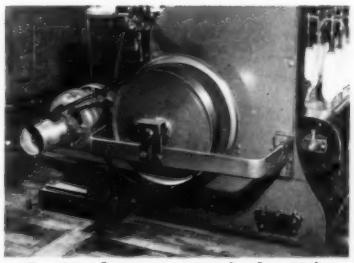
OUTLASTS ALL OTHER BELTING In every installation ever made, EXTREMULTUS has so far surpassed the operating life of the belting it replaced that mill personnel find it hard to believe their own records. EXTREMULTUS has been running without adjustment for *years*.

REDUCES BEARING LOADS Through its high coefficient of friction and unusual elasticity, EXTREMULTUS reduces bearing loads . . . thus resulting in less down-time and better production.

SPLICES QUICKLY You can make smooth, flexible, permanent splices in your own shop. The splice is as strong as the belt itself. It is not necessary to use a fastener.

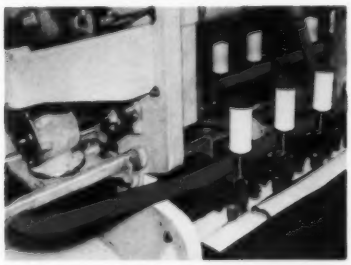
On smaller doffer pulleys, get higher lickerin speeds without jack shafts.





Roving frame super drafts with EXTREMULTUS belts have maintained required high speed without maintenance on every check since their installation.

On twisters and spinning frames EXTREMULTUS maintains constant spindle speeds.



EXTREMULTUS, INC., 25-11 40th Ave., Long Island City 1, N. Y.

FIND OUT HOW TO GET

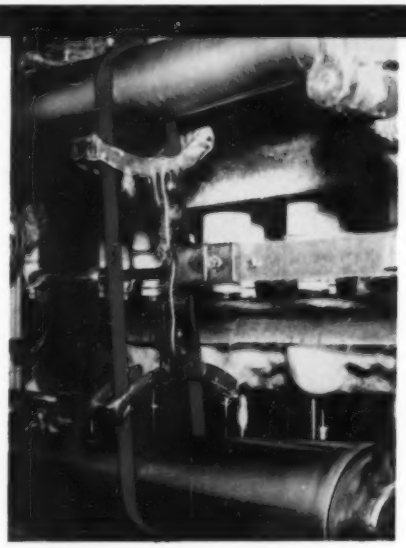
8 HOURS OF BELT EFFICIENCY OUT OF EVERY SHIFT

...THE EXTREMULTUS WAY!

Whatever your mill's requirements may be, it is almost certain that EXTREMULTUS can help you improve output and reduce maintenance expense.

EXTREMULTUS distributors and members of our engineering staff are always available for consultation and discussion.

Fill out the coupon below and let us know in exactly what areas of operation we can be of the most service.



On this roving frame, a 1" EXTREMULTUS belt replaced a 1¾" leather belt on the cone drive . . . maintaining constant speed under 60 lbs. added test weight. (All other belts broke under this test.)

A

EXTREMULTUS, INC.

25-11 40th AVENUE
LONG ISLAND CITY 1, N. Y.

☐ Send me EXTREMULTUS catalog. I would like more information on how EXTREMULTUS:

☐ Keeps tension
☐ Eliminates start-up problems
☐ Outlasts all other belting
☐ Gives smooth, constant speed
☐ Reduces bearing loads
☐ Splices quickly

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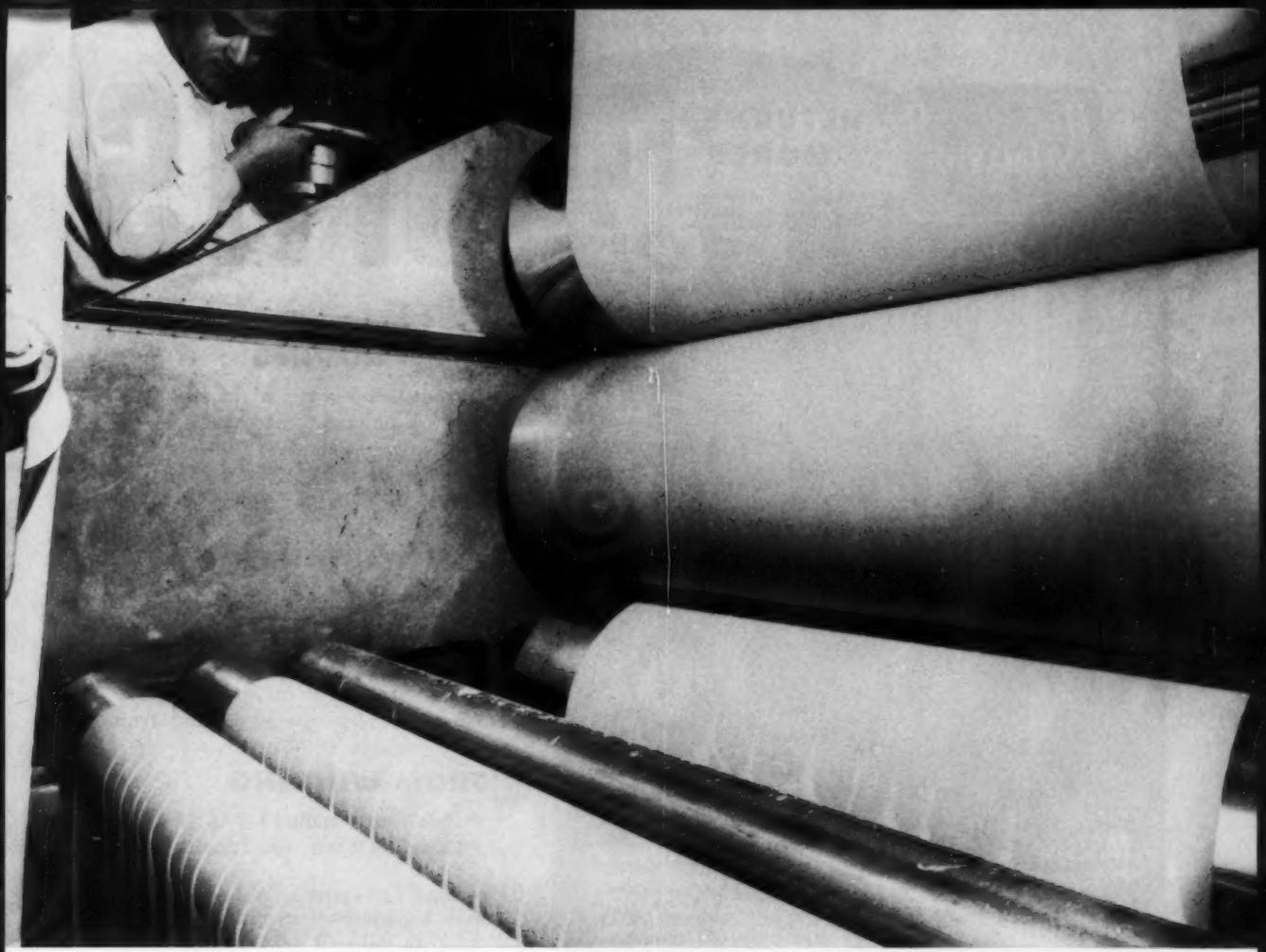


Stainless Steel cuts product rejections 100%

AT JOSEPH BANCROFT & SONS, WILMINGTON, DELAWARE

"We bleach, dye, and mercerize fabrics in this plant," says Mr. James E. Dooley, Chief Engineer at Bancroft & Sons. "We use highly corrosive agents—sodium chloride, sulfuric acids, sodium sulfates, peroxides and a few more. These chemicals ate into the metal on our old equipment. They left a rough, abrasive surface that occasionally shredded the fabric. And because the surface was so pitted and irregular, it was almost impossible to clean it thoroughly; dirt accumulated and got into the material. Naturally, stained or torn fabrics were rejected.

"We solved the problem when we installed Stainless Steel. Stainless equipment resists corrosion and retains a smooth, mirror-like finish that is easy to keep clean. With Stainless Steel we've had absolutely no corrosion and no shredding of the fabric. We've completely eliminated product rejections.

"We paid a little more for Stainless Steel, but now we've more than made up the additional cost. The Stainless Steel wears so well—we expect at least 20 years' service—that we've already cut replacement costs 60%."

End product rejections in *your* plant. Build and repair your equipment with Stainless Steel. USS Stainless Steel is available through your U. S. Steel representative or your local Steel Service Center.

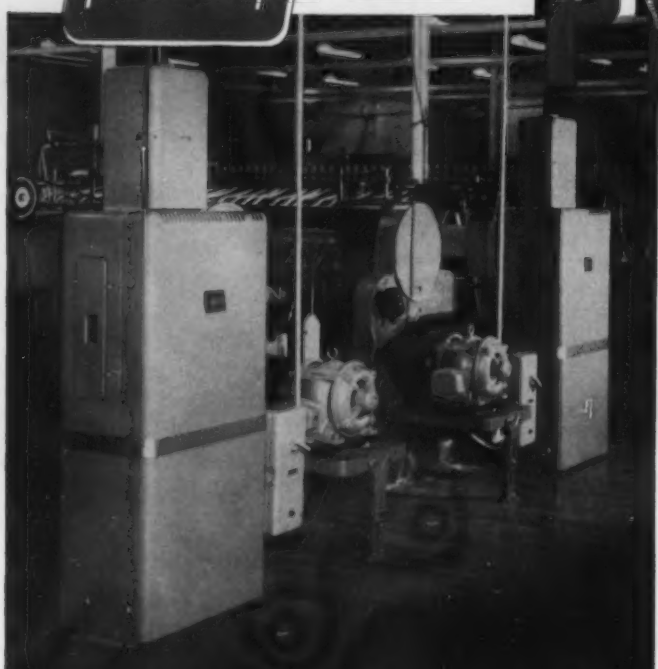
USS is a registered trademark

United States Steel Corporation – Pittsburgh
American Steel & Wire – Cleveland
National Tube – Pittsburgh
Columbia-Geneva Steel – San Francisco
Tennessee Coal & Iron – Fairfield, Alabama
United States Steel Supply – Steel Service Centers
United States Steel Export Company

USS United States Steel

PNEUMASTOP®

RETURNS MORE PROFITS



MILLS now enjoying the many competitive advantages of PNEUMASTOP can look forward to an even greater return from their investment with the addition of new ELECTROFIL. ELECTROFIL patrols the creel portion of the roving frame ready to stop instantly when a creel break occurs, leaving a tail for piecing-up. Mills report frame down time cut in half!

HUMIDITY — WHERE IT'S NEEDED

PNEUMASTOP literally pulls humidified air into the drafting area. Quality is vastly improved because of fewer ends down, frame stops, and lap ups.

CLEANER FRAMES

PNEUMASTOP's suction works in fly generating area, picking up loose fly and trash before it settles on frames. Flyer picking time is cut in half!

CLEANER — STRONGER ROVING

Slubs, gouts, and foreign matter are removed and the roving goes to the spinning room cleaner, stronger, more even. Spinning room ends down are reduced as much as 30%!

INSTANTLY CONTROLS END BREAKS

PNEUMASTOP immediately grabs the broken end, keeping it always under control. The frame is instantly stopped except for slight delay at traverse change.

for more information please contact

PNEUMAFIL CORPORATION
CHARLOTTE 8, NORTH CAROLINA

☑ FROM ROVING

- Production increased from 3 to 15%
- Job assignment increased 25%
- Roving area kept 50% cleaner
- Frame down time due to end breaks and creel breaks reduced 50%

☑ FROM SPINNING

- Reduction of ends down from 10 to 30%
- Yarn appearance up-graded ½ grade
- Spinners' cleaning time reduced another 15%
- Production increased on each frame

☑ FROM WINDING

- Throw-outs reduced 5 to 15%
- Cleaning cycle on frames reduced 20 to 25%
- More full spinning bobbins, resulting in 2% increase in production
- Knots reduced per cone

☑ FROM WEAVING

- Warp end breaks reduced 10 to 15%
- Filling breaks reduced 10 to 15%
- Loom stops from yarn imperfections reduced
- Weave room efficiency improved ¼ to 1%

☑ FROM THE PRODUCTS

- Fewer cloth imperfections due to yarn faults
- Faster inspection per cut

☑ These are actual results of a study made recently in a well known mill. Full particulars furnished upon request.

PNEUMAFIL

© 1958 Pneumafil Corp.

BLACK as your hat

A derby, to the man who wears one, can impart a sense of dignity and pride. But to the dyer any item of apparel that radiates vibrant lasting color, is a symbol of a job well done. When superior Vat Blacks are required, GDC's quality line of INDANTHRENE VAT BLACKS represent the perfect answer. These pure, easily dispersed dyes are readily adaptable to all methods of application. You can expect clean, full, level dyeings which result in uniform coloration from batch to batch. These agglomeration-free products can reduce the number of rejects and seconds, thereby effecting significant economies. Their over-all excellent fastness and absence of light tendering make the INDANTHRENE DIRECT BLACKS the dyes of choice in outdoor furnishings and other critical end uses. Level dyeing of stocks, packages, cheeses and beams coupled with good fastness to mill processing are further attributes of these versatile dyes. Just a few samples from our wide selection of vat blacks include: **INDANTHRENE DIRECT BLACK AG**—Newest non-compounded direct vat black—economical—excellent over-all fastness. **INDANTHRENE DIRECT BLACK RB**—A premium dye for washable articles and as a base for compound shades. Available in paste and dispersed powder form. **INDANTHRENE DIRECT BLACK CH, INDANTHRENE DIRECT BLACK CG**—Valuable for colored yarn effects in white and for cotton package dyeing in circulating machines. **INDANTHRENE BLACK BB**—Vat dye of choice for jet-black shades on yarn and hosiery. The INDANTHRENE DIRECT BLACKS described above are available as infra pastes—speck-free, non-settling, non-specking and free-flowing. Write or call for detailed information on these, or any other dyes.

FROM RESEARCH TO REALITY

gdc gaf

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Spartan Mills leads with NEWEST in Frame Cleaning

To keep more frames cleaner than ever before, Spartan Mills is first with the newest combination for cleaning:

1 BAHNSON CROSS-JET CLEANER

- Flexible trunks for each side of frame clean creel, drafting system, and frame. Multiple air nozzles in trunks provide total frame cleaning.
- High air handling capacity with adjustable air volume for each area of frame.
- Oscillating air outlets provide 180° overhead cleaning, plus track and conductor bar cleaning.

2 BAHNSON VERT-I-RAIL TRACK

- First modern creel-mounted, single rail I-beam track offered for frame cleaners.
- Wider surface for wheel contact results in minimum track wear, maximum track life.
- Shielded conductors are open at top and bottom for easier air cleaning and maintenance.

Bahnson **AIR-O-MATION**

AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY, WINSTON-SALEM, N. C.

Two ways to cure maintenance-cost headaches

Texaco has developed a practical way to cure these headaches permanently—the Simplified Lubrication Plan. This plan effectively reduces the cost of mill maintenance because it helps you *organize* and *modernize* your lubrication practices for greater economy.

Take inventory and storage problems, for example. You eliminate these because the Texaco Simplified Lubrication Plan uses a minimum number of lubricants — perhaps only six to eight — for *all* your major equipment. There's less possibility of confusing lubrication crews, too, so it takes less time to lubricate your equipment. What's more, you avoid the dangers of misapplication and so increase output by cutting machine downtime and goods spoilage.

Production and maintenance economies — through worthwhile modernization — also are outlined in the Texaco Simplified Lubrication Plan. For example, the Texaco Lubrication Engineer who prepares your plan can point out the pros and cons of centralized lubrication systems for your equipment. He can advise you whether or not a transition to anti-friction bearings will be of value to you. He'll even suggest areas where lubricant consumption can be reduced, and money saved.

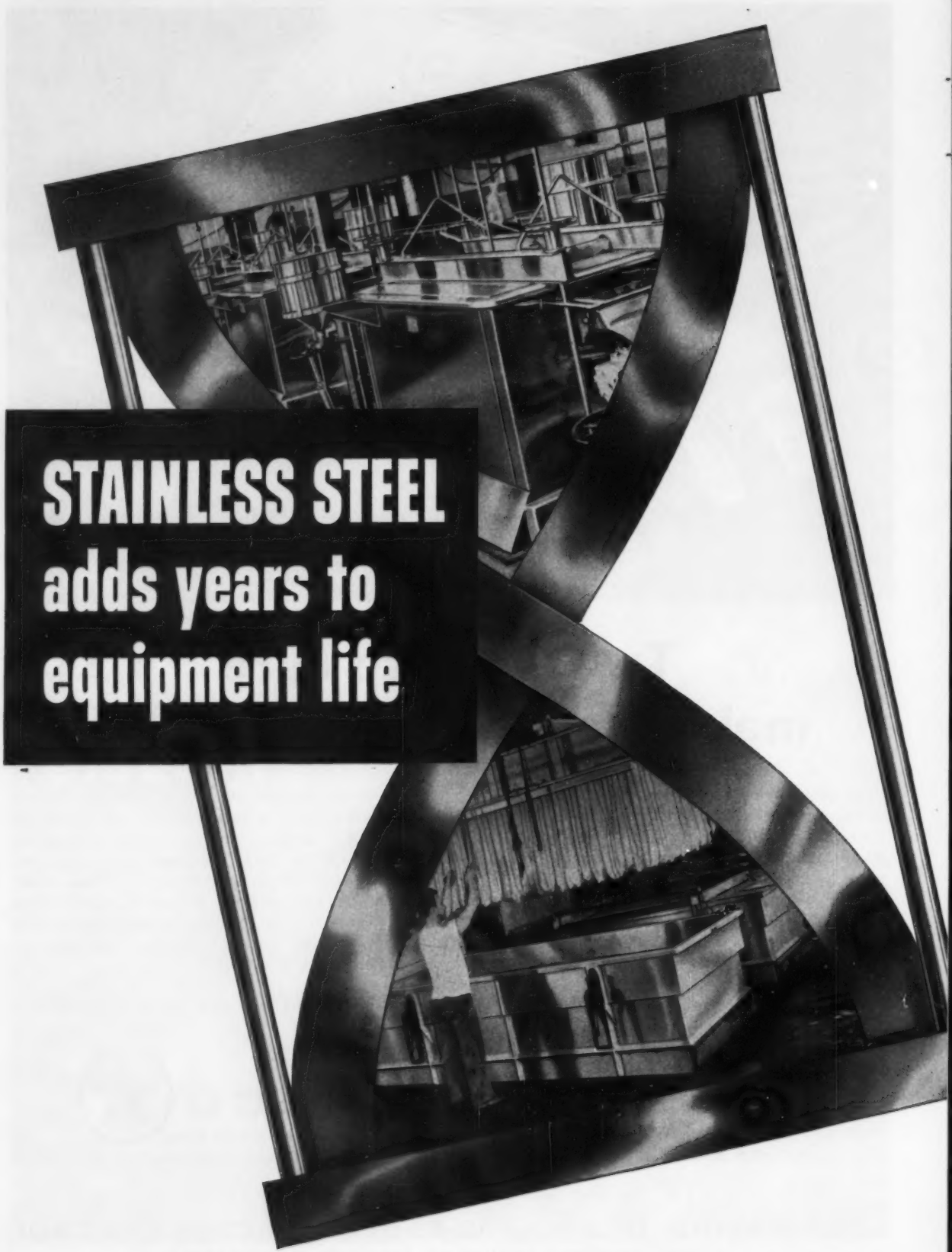
To get in touch with him, just call the nearest of the more than 2,300 Texaco Distributing Plants (there's probably one *very* near you) or write Texaco Inc., 135 East 42nd Street, New York 17, N. Y.

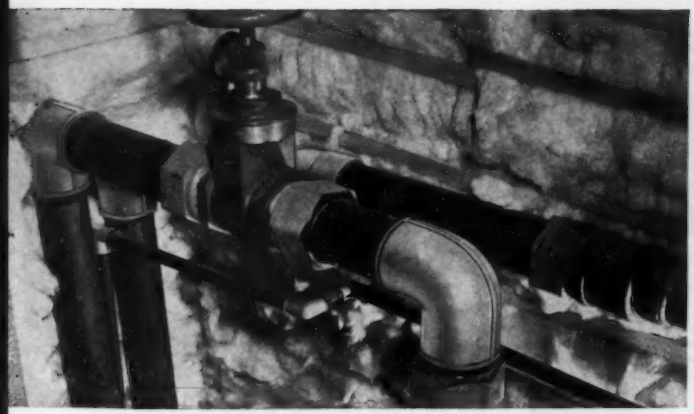
Tune In: Texaco Huntley-Brinkley Report, Mon.-Fri.-NBC-TV

TEXACO

Throughout the United States
Canada • Latin America • West Africa

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL
(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)


STAINLESS STEEL
adds years to
equipment life



ADD THE MAJOR SAVINGS of Republic SRK Plastic Pipe to your chemical piping installations. Replacement costs caused by corrosion are eliminated. SRK is lightweight, easy to carry. It is readily cut with handsaw or hacksaw. Easily joined with brush-applied solvent and socket-type fittings. SRK is available in a range of working pressures, and in sizes ½″ through 6″. Send coupon for literature.

ADD THE PROTECTION of Republic ELECTRUNITE "Dekoron®-Coated" E.M.T. to your electrical wiring system. This is the electrical raceway that shrugs off corrosion, outlasts standard conduit ten to one. A tough coating of polyethylene encases lightweight E.M.T. in an end-to-end armor that resists excessive moisture and corrosive fumes. Where required, coating is available on Republic Hot Dipped Galvanized Conduit. Send coupon for complete facts.

Textile equipment fabricated from Republic ENDURO® Stainless Steel lasts and lasts. No other commercial construction material offers the combination of chemical and physical properties so essential to the mechanical and chemical stages of processing.

Stainless steel offers maximum resistance to rust and corrosion. This versatile metal presents a smooth, hard surface that locks out contamination. It has no applied surface to crack, chip, flake, or peel away. Stainless does not deteriorate from daily contact with dye-bath chemicals or bleaching agents.

Stainless steel equipment is versatile. You can use the same equipment for dyeing, rinsing, or bleaching. Easy-clean qualities make possible quick color changes so that small runs can be processed economically.

Your equipment supplier will give you more reasons for using equipment fabricated from Republic Stainless Steel—the metal that produces immediate savings in maintenance and cleaning costs, and long-range savings in extended equipment life. Contact him, or send us the coupon for more information.

This example of the advantages of stainless steel is brought to you by Republic Steel in behalf of the stainless steel equipment manufacturers and your local steel service centers.

ADD THIS NEW IDEA for saving time and money in making racks, stands, scaffolds, catwalks, tables. It's Republic METAL LUMBER®. Precision engineered system of short slots placed to allow ¾″ vertical and horizontal adjustment, offers unlimited applications. Simply measure, cut, assemble. Bonderized to resist rust and damage; baked enamel finish. Delivered in bundles of 10 angles, 10- or 12-foot lengths, bolts and nuts included. Send coupon for catalog.

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World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
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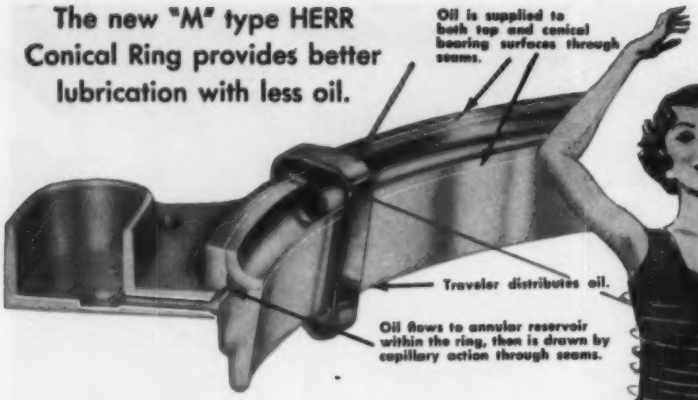
☐ "Dekoron-Coated" E.M.T. ☐ METAL LUMBER

Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State_____

The new "M" type HERR Conical Ring provides better lubrication with less oil.


Oil is supplied to both top and conical bearing surfaces through seams.
Traveler distributes oil.
Oil flows to annular reservoir within the ring, then is drawn by capillary action through seams.

CORRECT SPINNING OR TWISTING OF ANY YARN

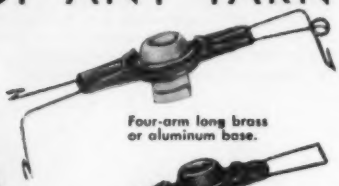
with HERR.

New "M" type

Conical Rings and Flyers

For spinning and twisting of medium and heavy counts of yarns.

For spinning of medium to light counts of yarns.



Four-arm long brass or aluminum base.

Four-arm short brass or aluminum base with balance bail wire.

Two-arm, light long aluminum base.

Special pollywog flyer for tire cord and heavy yarns.

In the mad rush to meet the popularity of knitted tights — the most extraordinary in years — the yarns made with Herr Conical Rings and Flyers are helping manufacturers meet high production operation with garments that have just the right stretch and fit. Tights made of HELANCA stretch yarns, produced with Herr equipment, have the curvy, stretchy, sleek look that brings the highest prices.

Herr Flyers produce light tensions at high speeds for accurate twist and yarn control.

New "M" Type Herr Conical Rings are self-lubricating with minimum oil consumption and long traveler life. Result is clean yarn, especially valuable in handling new bulk or stretch yarns.

Let HERR Engineers solve your spinning and twisting problems.

HERR®

MANUFACTURING CO., INC.

310 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

WARP SIZING

New Series of Articles by Paul V. Seydel Now in Book Form!

The series of articles on warp sizing which appeared exclusively in TEXTILE INDUSTRIES during 1956-1957 is being reprinted in book form and made available to mill technicians and executives, now.

If you read the articles as they appeared you know how thoroughly they covered the subject and you will without doubt want the book for reference and study. If you did not read the series as they were printed, then you will welcome this chance to get your copy of the 500 page book.

The author, Dr. Paul V. Seydel, is an internationally known expert on sizing. He is thoroughly grounded in theory and practice and pre-eminently qualified to handle the subject.

Just look these chapter headings over and see how completely the facts are presented.

WARP SIZING

Purpose of Sizing
The Material to be Sized—Cotton
The Material to be Sized—Man-Made Fibers
Materials for Sizing
Analysis and Testing of Materials for Sizing
The Sizing Process
Testing and Analysis of the Sized Materials
Handling and Properties of the Sized Warp
The Slasher Room and its Equipment
Slasher Controls

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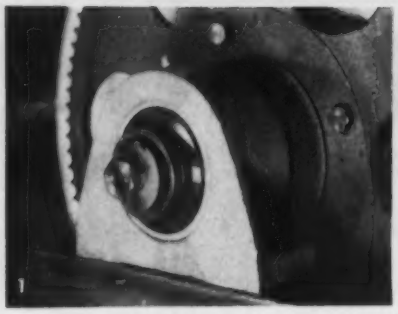
☐ **Enclosed find $5.00 (U.S.A.)** ☐ **Bill me for $5.00 (U.S.A.)**
(Foreign Rates on Request)



Largest cylinder journals and bearings: 2-11/16 inch self-aligning ball bearings are largest ever offered and with machined labyrinth-type grease seals assure you extra long service.

Largest sprockets: 25-inch 105-teeth sprockets mean more accurate control of cylinder surface speed and yarn tension, more efficient transmission of power, longer life.

Heaviest frame built: 7" deep at the heaviest point, 4" deep at the lightest. New patent-pending "wide-open" design gives superior access to warp and cylinders.

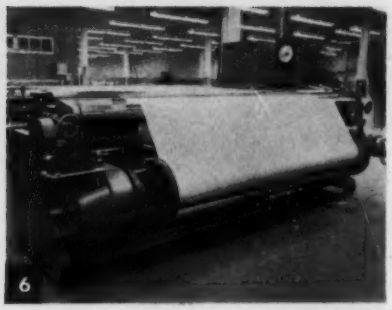
Eight good reasons why **West**

7 — The best and the simplest beam drive: Direct motor-to-spline shaft drive and spline shaft-to-loom beam arbor drive with V-belts and roller chain. No power loss through worm gear reducer. No gearmotor, no torque tube, no universal joints needed! What could be simpler and better maintained in the mill than chain and V-belt drive with parts readily available from mill supply house?

8 — High Capacity Double-Squeeze Size Box, designed to handle both light and heavy warps, now running warps of over 6,000 ends. Easy-to-clean flush side.

Removable side panels guarding sprockets are lifted out for access to warp and cylinders. No bolts, screws, or nuts to remove, to tighten or to lose! Note smooth clean side.

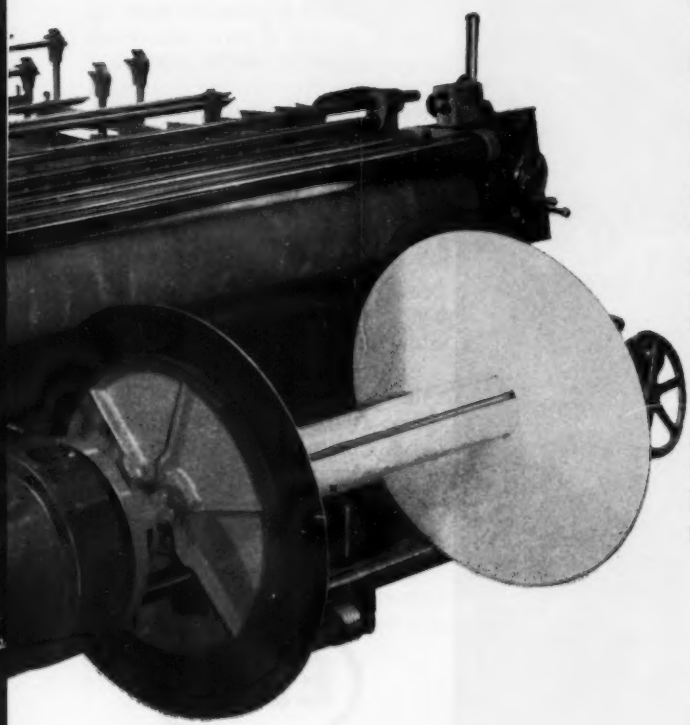
Steam and condensate manifolds are covered by a heavy metal guard for cleanliness and to protect operators from burns. Covers easy to lift off, yet strong enough to stand on.



Rugged high-speed head end can accommodate beams varying over 100 inches in width without projecting arbors (not limited to 50 inches).

Point SLASHERS

have outsold all others the last three years



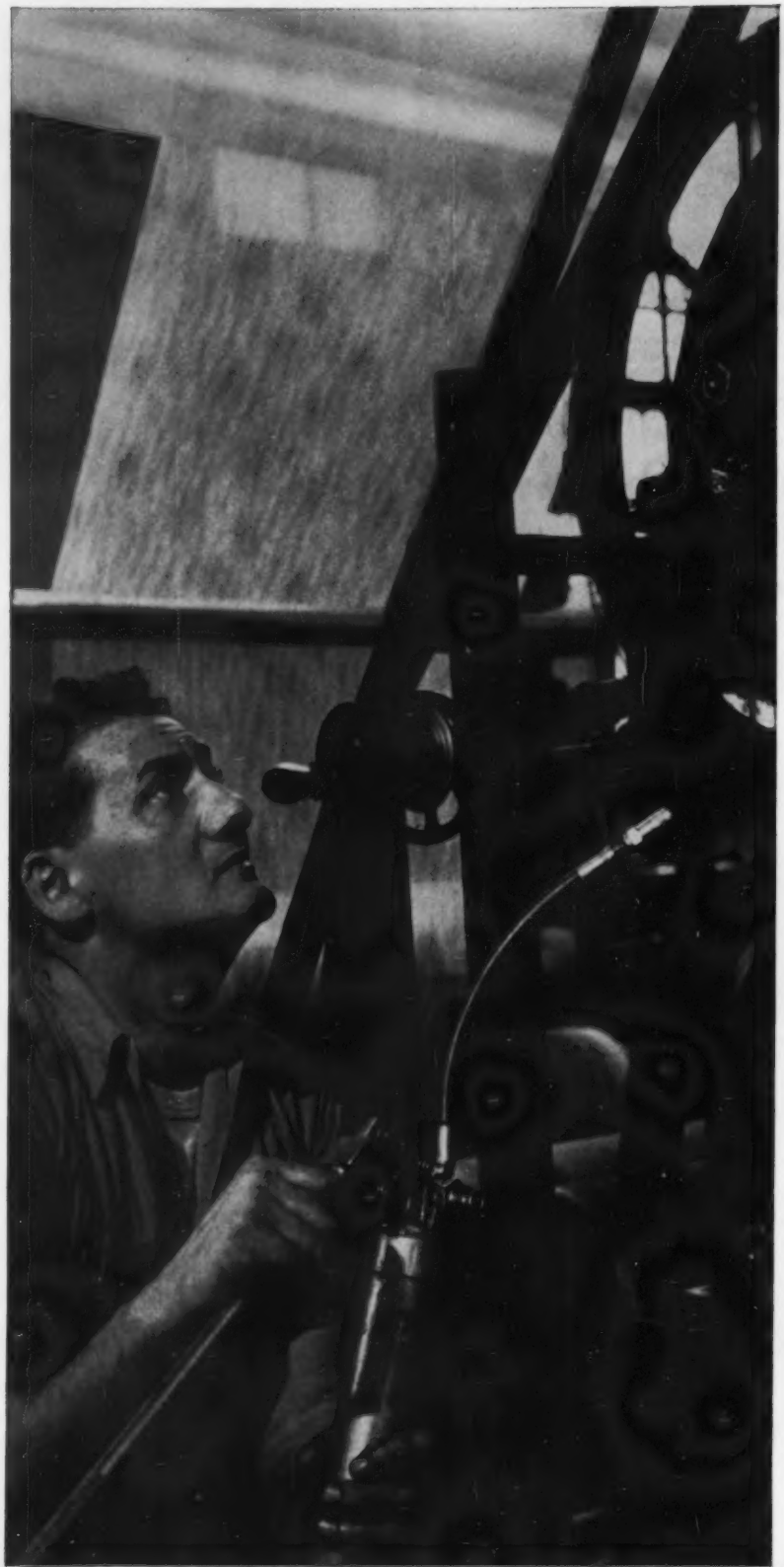
IN ACTUAL SALES during the last three years West Point Foundry has sold more slashers than all other U. S. A. manufacturers combined by a margin better than 2 to 1. This is BUYING PREFERENCE expressed in hard-earned textile dollars which makes other manufacturers' claims sound empty.

WEST POINT'S PACESETTER is *not* the least expensive slasher built, but an overwhelming preference by buyers means it is the best value! This is only because of the exceptional quality features of the PACESETTER slasher.

Look at the superior quality features illustrated here; then contact your West Point Foundry representative for the complete story on the PACESETTER, the most outstanding slasher in the industry today.

WEST POINT
Foundry & Machine
Company

WEST POINT, GEORGIA



Needs less "make-up" grease with NEBULA® EP

Measured in terms of lower depreciation, less down-time and costly overhauls—your maintenance man makes a most significant contribution to your profit picture. That's why it pays to supply him with Nebula EP . . . the multi-purpose grease that has no rival, especially under high heat and extreme pressure conditions.

Nebula EP requires less make-up grease because it stays put, resists thinning and refuses to run out at the high temperatures created in textile equipment bearings. Even in bearings that are subject to extreme heat, like the "dry can" bearings shown here, Nebula EP stays on the job. In addition Nebula EP offers remarkable extreme pressure characteristics — making it the ideal multi-purpose grease for use in almost every machine and bearing found in textile equipment.

For more information on versatile Nebula EP, or technical assistance available through a conveniently located Esso Sales Service Laboratory, contact your nearest Esso office, or write: Industrial Lubricants Division, Esso Standard Oil Company, 15 West 51st St., New York 19, New York.

Esso

In Industry after Industry..."ESSO RESEARCH works wonders with oil"

New Low Cost TEXTILE PULLEY

adjusts speeds while running!

REEVES® *vari-spin drive*

new belt Field-tested, specifically designed 2″ rib belt. Flexible, high resistance to heat, oil and moisture. Long life under continuous rated load.

new base Low cost. Rugged welded steel. Minimum height. Easily adjustable.

● Speed settings in 2:1 range are accurately made in seconds —*while the frame is operating.*

A low cost unit, the compact 975-T features REEVES' exclusive "close grooving" for positive lubrication . . . free sliding shifting action.

Contact your nearest REEVES or RELIANCE representative, or write for complete details in Bulletin T37-G586-1.

for a wider speed range, 3 to 1, fixed center drive, write also for details on REEVES No. 16-10 Vari-Spin Drive . . . through 15 hp. Ask for Bulletin T37b-G561-1.

REEVES PULLEY COMPANY
Division of **RELIANCE** ELECTRIC AND ENGINEERING CO.®
Columbus, Indiana

NOW a whole new with cotton

It is now possible for you to produce without modification of your present equipment wash 'n' wear fabrics of superior properties.

Why? Because there is a new fiber of super strength rayon available. It is AVRON rayon.

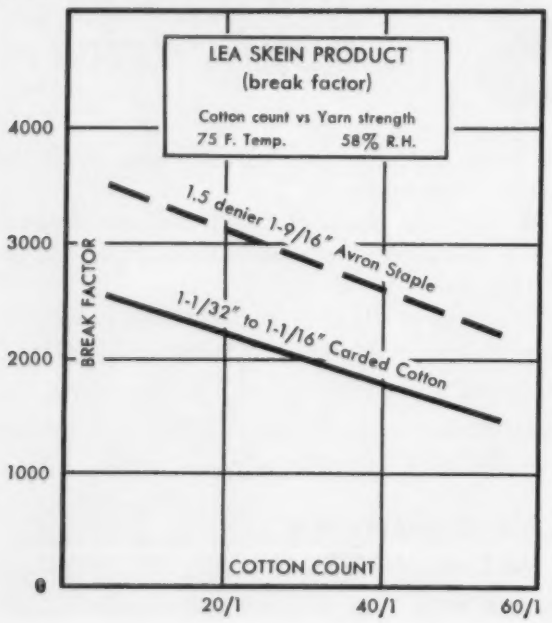
The new fiber excels cotton for single fiber tensile strength in the conditioned state, approximates it for the same property when wet. AVRON is not degraded to the same extent as cotton by resin finishing and, added to cotton, it imparts a soft hand unattainable with cotton alone.

NO CHANGE IN TECHNIQUES NECESSARY. Avron rayon may be worked through the cotton system without any modification of equipment. Because of superior tensile strength, spinning and weaving efficiency is higher for Avron rayon than for cotton. And in any drawing frame blend with cotton, less waste means a cost saving.

EASE OF DYEING. Avron dyes to any shade easily without changing your techniques. In fact, it has a greater affinity for dye than cotton.

LIGHTER FABRICS FOR SAME STRENGTH. Because of the strength of AVRON fibers you can turn out lighter wash 'n' wear fabrics of the same strength as cotton, and a more even fabric because of the uniformity of AVRON yarn. Also, standard weight cotton constructions can be made with 75 to 100% greater tensile strength and tear strength.

PROPERTIES OF AVRON FIBER OF SPECIAL IMPORTANCE TO THE MILL . . .



Stress Strain	100% Cotton	100% AVRON
Single Fiber Tensile (grams per denier)		
Conditioned	3.65	4.07
Wet	4.20	2.96
Single Fiber Extensibility		
Conditioned	10.0	30.2
Wet	13.0	37.0
Moisture Regain, Adsorption	7%	12%

COMPARISON OF YARN PROPERTIES

	Cotton*	AVRON
Yarn Count (Cotton System)	30/1	30/1
Turns/Inch	24.0	16.5
Lea Skein—Strength (lbs.)	72	100
Product	2170	3000
Single End—Strength (ozs.)		
Conditioned	10.2	13.9
Wet	11.8	9.7
Single End—Product		
Conditioned	307	418
Wet	354	290
Single End—Extensibility		
Conditioned	6.1	20.0
Wet	9.3	24.0

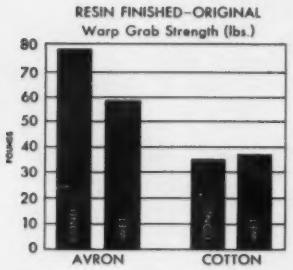
1-1/32" to 1-1/16" Carded Cotton

(Finer count yarns can obviously be made from AVRON fibers)

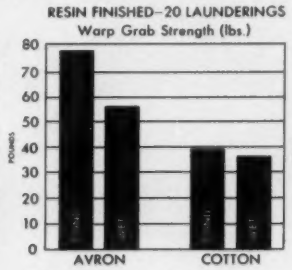
approach to wash 'n' wear fabrics warp and **AVRON*** rayon filling
high strength

COMPARISON OF AVRON AND COTTON IN FINISHED FABRICS

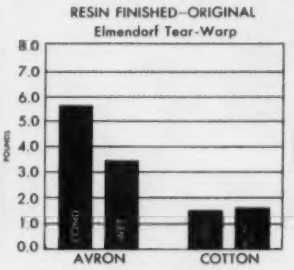
The following charts clearly demonstrate the superiority of AVRON over cotton.
Fabrics were tested before and after 20 home-type launderings at 140° F.



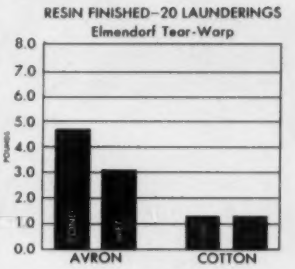
AVRON is about 123% stronger conditioned, about 60% stronger wet than cotton fabrics.



AVRON is 97% stronger conditioned, about 53% stronger wet than cotton fabrics.



AVRON is 273% more resistant to tear conditioned, 106% stronger wet than cotton.



AVRON is 262% stronger conditioned, 138% stronger wet.

HOW COMMERCIALLY-PRODUCED AVRON FABRICS COMPARE WITH MINIMUM REQUIREMENTS FOR WASH 'N' WEAR FABRICS, STATED BY NATIONAL ASSOCIATION OF SHIRT, PAJAMA, AND SPORT SHIRT MANUFACTURERS

	136 X 60 COMBED BROADCLOTH			100 X 58 CARDED BROADCLOTH		
	Required	Cotton Warp AVRON* filling	% Improvement	Required	Cotton Warp AVRON* filling	% Improvement
Filling tensile strength	25 lbs.	44 lbs.	76%	25 lbs.	40 lbs.	60%
Filling tear strength	450 gm	1600 gm	256%	450 gm	1600 gm	256%
Wrinkle recovery	220	250	14%	220	250	14%
Wash-wear rating	3.0-5.0	3.0-5.0	—	3.0-5.0	3.0-5.0	—

*Trademark American Viscose Corporation

For additional information about AVRON fibers and fabrics write directly to
AMERICAN VISCOSE CORPORATION, 350 FIFTH AVENUE, NEW YORK 1, N. Y.

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Rayon • Acetate • Cellophane

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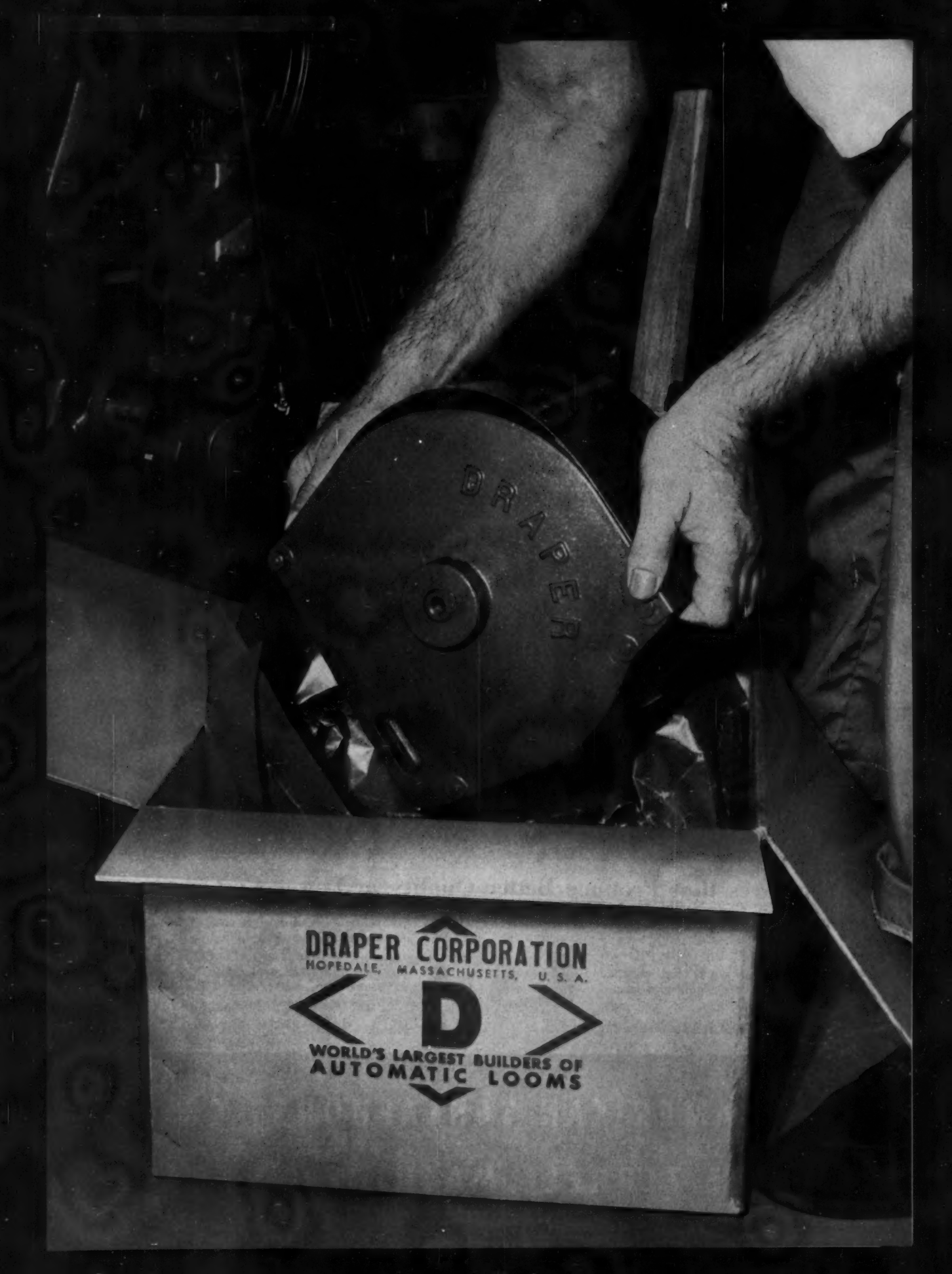
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WORLD'S LARGEST BUILDERS OF
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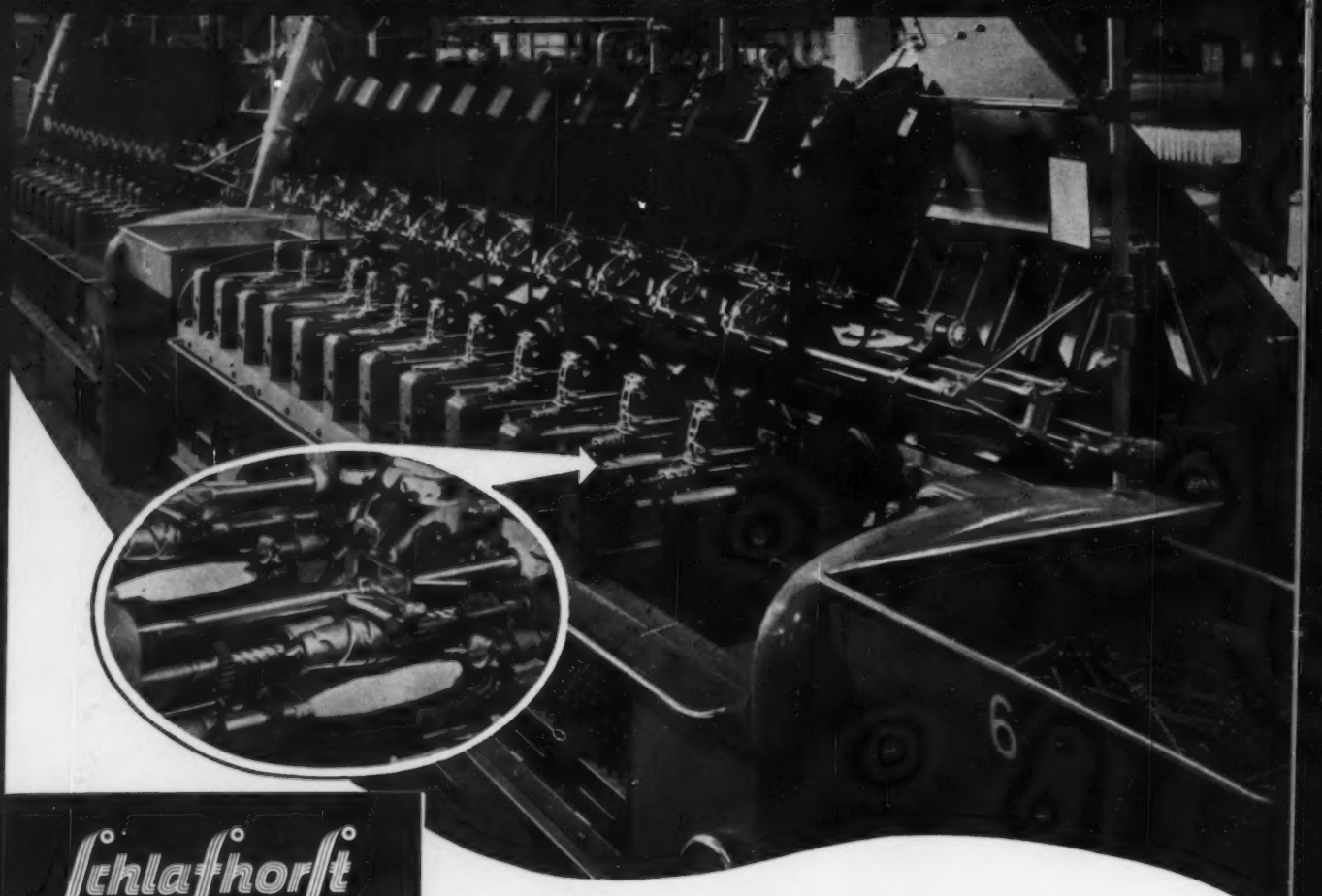
ONLY INDUSTRY-WIDE ACCEPTED HIGH SPEED AUTOMATIC QUILLER



Schlafhorst AUTOCOPSER ... *with Individual Spindle Pinboarding*

Features that Produce Better Quality at Lower Cost

1. Interlocking wind permits larger bobbin diameters without sloughing.
2. Larger bobbins lower cost per pound—reduce all indirect labor from quiller to loom.
3. Proved individual spindle pinboarding.
4. Compensating tension gives constant tension, reducing danger of stretched filling.
5. Magazine fillers can load quills in loom exactly as they come from cones, reducing possibility of bands when weaving colored yarns.
6. No piece quills.

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AMERICAN SCHLAFHORST CO.

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THE TERRELL MACHINE CO., INC.

CHARLOTTE, N. C.

NEWS IN BRIEF

See Best Textile Profits Since 1956. Current order backlogs assure the maintenance of a high level of volume for the textile industry well into 1960, says the *Value Line Investment Survey.* Moreover, earnings comparisons should become increasingly favorable as recent price advances take effect. The best profits since 1956 are in prospect for the textile industry as a whole this year, the *Survey* concludes.

Urge Limit on State Taxes. Several textile groups have testified before the Senate Finance Committee, calling for favorable consideration of legislation to correct the situation arising from two recent Supreme Court decisions paving the way for state taxation of

interstate commerce. Subjecting mills to separate income taxes in every state in which they do business would be extremely burdensome, the association representatives emphasized. As the spokesman for the American Cotton Manufacturers Institute put it, the cost of compliance with diverse tax laws in the 50 states "may well exceed the burden of the taxes themselves."

Tax Returned Cotton—Lowenstein. Foreign textile men should be required to pay a tax on the cotton content of fabrics sent to this country, where the cotton was originally a U.S. government-subsidized export, said Leon Lowenstein, executive board chairman of M. Lowenstein & Sons, Inc., in a letter inserted in the Congressional Record.

James Lees & Sons Co.'s "Starflight" carpeting is used in United Airlines' new DC-8 jets.

Permanent Creasing for Wool. Within five years all men's wool trousers will be permanently

creased, according to a prediction by Max F. Schmitt, president of the Wool Bureau.

Big Synthetics Expansion? U. S. synthetic-fiber producers will spend between $1.1 billion and $1.3 billion on new facilities by 1975, and 80% of this expansion will be in the South and Puerto Rico, according to a recent forecast. In his book, "Location of the Synthetic Fiber Industry," recently published by M.I.T., Joseph Airov, professor of economics at Emory University, further predicts that by 1975 new U.S. synthetic-fiber capacity will range up to 830 million pounds a year, with chemical intermediates increasing by 783 million pounds annually.

Cotton Industry's Chances. A recent study by the Harvard Graduate School of Business Administration finds that the U.S. cotton industry has become dependent on government action, competition from other fibers has increased,

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BEECHCRAFT — AIRFLEET OF THE TEXTILE INDUSTRY

competition from foreign cotton has increased (in the foreign market), production is inefficient, and textile mills are increasing use of man-made fibers by substitution or blending. The authors feel that the following steps are needed if cotton is to remain an important part of the economy: improved production and handling methods for raw cotton, competitive pricing, improved end-use characteristics through research, expanded promotion, and creation of a favorable environment for growth through legislation and government policies. Copies of the 201-page book, "The Competitive Potential of the U.S. cotton Industry," are available at $3.00 from Harvard Business School, Division of Research, Soldiers Field, Boston 63, Mass.

Maintenance Show for South. The first Southeastern Plant Engineering and Maintenance Show will be held at the North Carolina State Fair Arena, Raleigh, N. C., Sept. 22-24, in conjunction with a

seminar to be under the direction of the School of Engineering, N. C. State College. The show and seminar have been planned by representatives of the N. C. chapters of the American Institute of Plant Engineers, and N. C. State College.

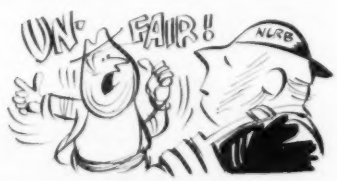
Sears, Ward's Plan Import Rise. Sears, Roebuck & Co. and Montgomery Ward & Co., leading retailers and mail-order houses, are substantially increasing their imports, particularly from Japan, and plan to increase them considerably more. Speaking at the recent Chicago World Marketing Conference, representatives of the two firms gave advice on helping foreign firms to design products which appeal to American tastes, and improving relations with exporters abroad (getting them to come to the U.S. to learn the market firsthand is a primary step). Reasons for Sears' increase in imports was

Labor-Management News

Individual Can Be an Organization. National Labor Relations Board has ruled that an individual employee can represent other employees as their bargaining agent and can negotiate a union shop

contract requiring them to pay dues to him. The Board added that such individual must comply with the filing requirements of the Taft-Hartley Act.

NLRB Busy. Unfair labor practice cases continued to flow into the National Labor Relations Board at steadily increasing record rates during the first quarter of 1959, the Board reports. Some of the highlights: General Counsel is-



sued 274 unfair labor practice complaints, the greatest number ever issued in a quarter. For the sixth consecutive quarter, the number of charges of unfair labor practices reached an all-time high. The number of charges filed against employers or unions also reached an all-time high.

New Rock Hill Contract. Textile Workers Union of America and Rock Hill (S. C.) Printing & Finishing Co. have extended their contract until 1962. The 3,300 employees at the plant also got an 8-cent per hour increase in a wage reopening.

Newly Unionized. Textile Workers Union of America has replaced Canadian Celanese Employees' Association as bargaining agent for the 2,000 employees at Canadian Celanese Ltd., Drummondville, P. Q. Amity Dyeing & Finishing Corp., Norwich, Conn., has signed a contract agreeing that TWUA will represent its 100 employees.

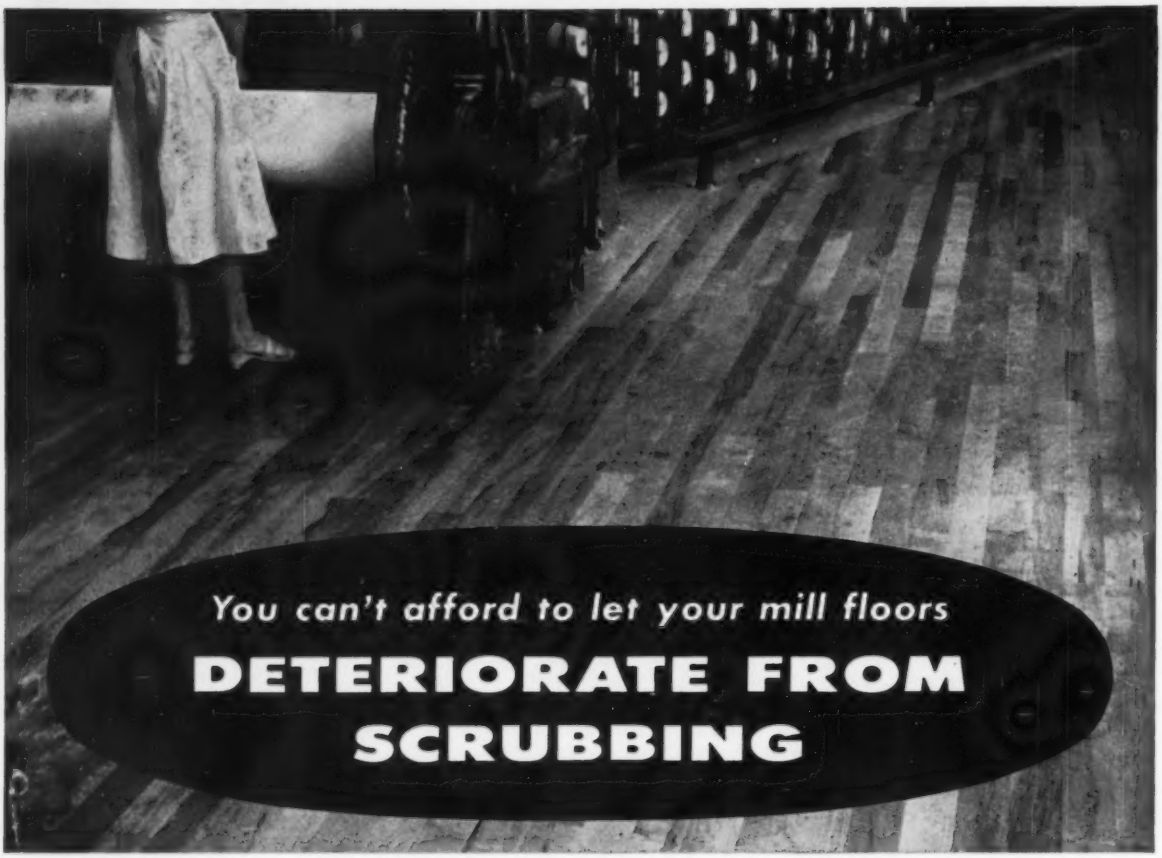
TWUA Asks Overseas Labor Code. American firms who move their plants abroad to take advantage of low labor costs should be subject to a labor code to protect domestic industry, Solomon Barkin, director of research for the Textile Workers Union of America, told a Senate subcommittee.

Consumers Doomers of Bloomers, NLRB Says. Women's changing whims, and not union-busting, caused Munsingwear, Inc., to shut down its bloomer assembly line at Guin, Ala., a trial examiner for the National Labor Relations Board has ruled. Bloomers are

now a relic of the past, along with bustles, high-buttoned shoes, and the hobble skirt, said the trial examiner, in deciding that the company closed out its operation and discharged eight bloomer girls for economic reasons, and not for the purpose of interfering with their right to organize.

Union Losses. Textile Workers Union of America recently lost elections at Belding Heminway Co., Bedford, Va. (84-71), and at Feld-

spar Corp., Spruce Pine, N. C. (24-4). The election at Belding Heminway was the second the union had lost there in three years.



Dozens of textile mill maintenance men—acting on the advice of Atlanta-based Minnesota Paint salesmen—have reduced floor care costs by following these eight basic rules:

1. Always clean floors thoroughly before sealing. Floors must be absolutely clean and dry before sealing or they will look dark or soiled until they are completely re-sanded. Scrape off accumulated floor deposits and remove grease spots with mineral spirits.

2. Use only top quality sealers and finishes. The secret of a good sealer is the solids it contains. The more tung oil a sealer contains the deeper it penetrates and the better the foundation for the finish coat. Tung oil makes wood fibers tough, elastic, and waterproof. Special synthetic resins are added for hardness, durability, to speed drying and to increase the gloss.

Minnesota Paints' Floor Finish chemists have developed precise combinations of tung oil and resins to fit your most exacting requirements. Minnesota Floor Finishes are widely used throughout the textile industry, because Minnesota Paints has made a special effort to study the floor finish problems and needs of textile mills.

3. Use a heavy bodied finish when time permits. Solids are the life of sealers and finishes. The more solids in a sealer, the deeper it penetrates and the better a foundation it makes. The more solids (tung oil and phenolic resins) a finish contains, the longer it will last.

However, the more solids a finish or sealer contains, the longer the drying time. Beware of fast drying floor sealers and finishes. They are probably low in solids and will not wear well.

Minnesota Minnfloor is an excellent, heavy-bodied—but slightly slower drying—heavy duty floor finish.

4. Allow plenty of drying time. It doesn't pay to rush the drying time of a good finish. Minnesota Minnfloor Finish and Heavy Duty Floor Finish, for example, under ordinary conditions dry in from six hours to overnight. However, if surface is to be exposed to heavy traffic or skidding machinery, floor should be dried for several days to prevent skinning.

5. Don't scrub or wet-mop too often. Remember, continuous scouring and scrubbing deteriorates floors. A freshly sanded or stripped floor sealed with Minnesota Penetrating Floor Sealer won't require much scrubbing. But when it does need it, the tough, deep sealer will prevent damage.

6. Dry-mop frequently. The best way to keep a floor bright and attractive is to buff and clean it frequently with a dry, cotton mop. Mops pick up fine dirt and dust and buff at the same time, while brooms and fibre brushes leave much of it behind.

7. Don't sand floors too frequently. The average maple floor cannot be sanded more than four times without cutting down to tongue and groove. Often a floor can be completely refinished, when necessary, without sanding by using Minnesota Floor Stripper. Floor Stripper is a non-inflammable product which softens floor finishes for removal by scraping and buffing. It works faster than sanding, does not rot floors or cut away wood surface, and need not be washed after scraping and buffing.

8. Don't use mop oil. More than enough oil usually drips from machines in textile mills to control dust when dry mopping. Floors are sanded to remove oil and sealed to keep it out, so why apply it intentionally? Oil darkens the finish and causes slick floors.

Minnesota Paints' staff of textile mill paint salesmen in Atlanta has had years of experience with your particular kind of floor finishing problems. Call or write for a service demonstration. No obligation. *Call* PLaza 3-5151, Atlanta, Georgia; or *Write* 1314 Murphy Ave., S.W., Atlanta. Our staff of floor experts will show you how to reduce floor maintenance costs while making your floors last longer and look nicer.

Minnesota PAINTS

MINNESOTA PAINTS, INC.

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reported to be the snob appeal of imports and their larger profit margin.

Russian Order for Whitin. Whitin Machine Works have signed a contract with purchasing agents for Gosplan, Soviet seven-year plan administrator, for about $3,200,000

worth of textile machinery to equip a worsted and synthetic yarn mill and a carpet mill. Gosplan has also ordered $250,000 worth of carpet looms from Crompton & Knowles Corp. Delivery will be completed early next year.

Boom in Underwear. Shipments of underwear and nightwear in the first quarter of 1959 totaled $71

million, as compared with $55.4 million in the similar quarter of last year, reports the Underwear Institute.

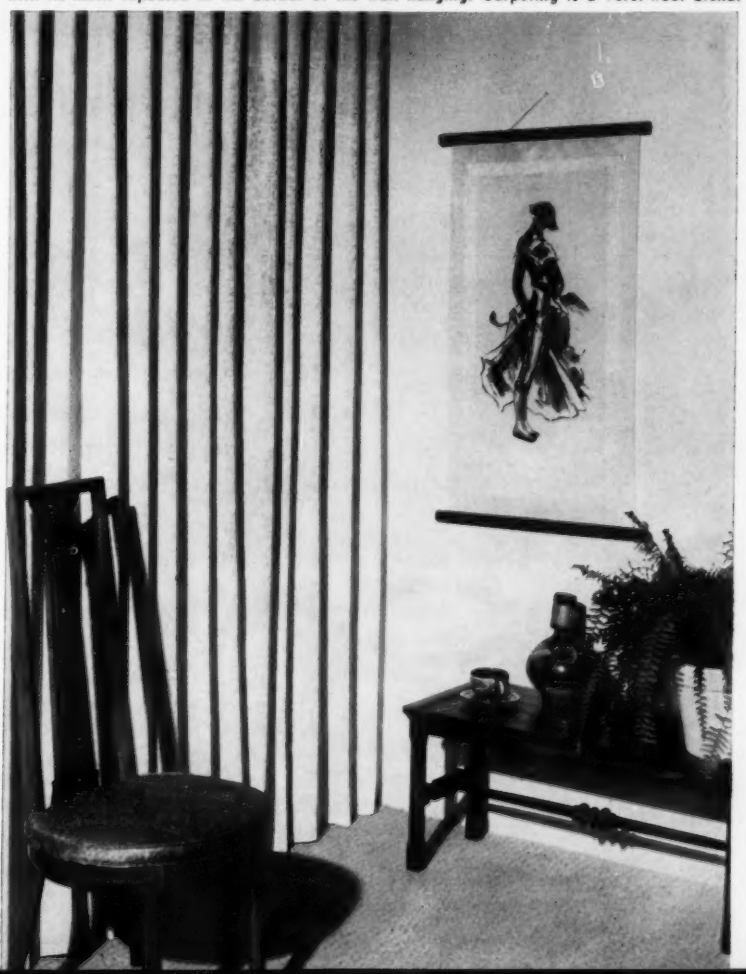
Design Protection. A bill, S.2075, "to encourage the creation of original ornamental designs of useful articles by protecting the authors . . . for a limited time against unauthorized copying," has been thrown into the legislative hopper

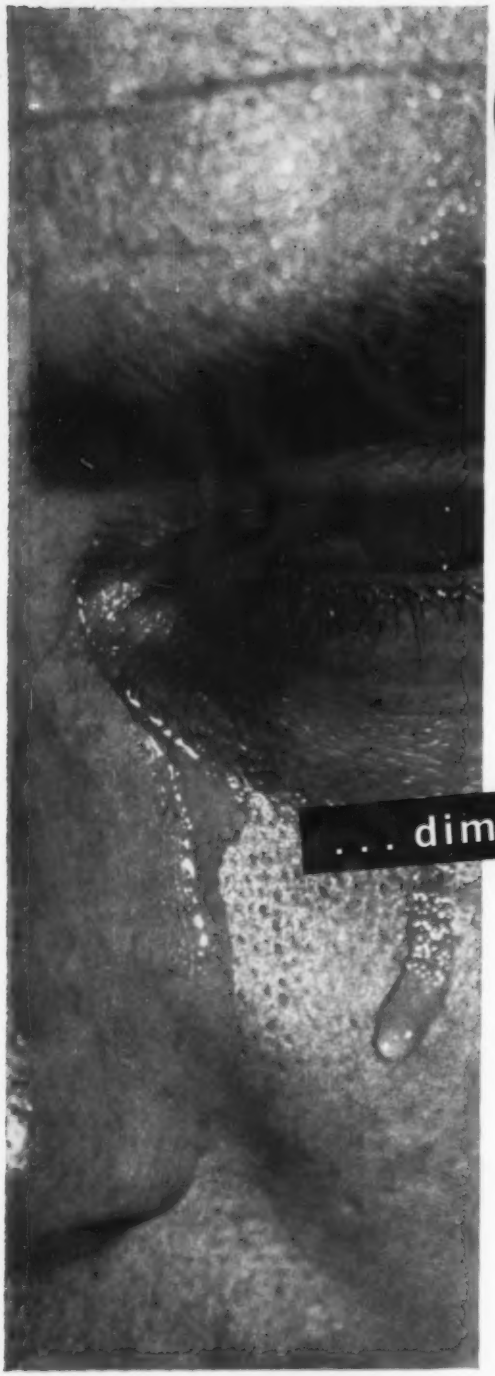
by Senators O'Mahoney, Wiley, and Hart. The bill rests generally on copyright principles; it gives five-year protection to a design if it is the original creation of ts author, and protects him against unauthorized copying of the substance of his design.

Record Cotton Yield? Although

An inflatable dam, made of nylon coated with neoprene and designed to be collapsed when flood danger arises, stretches 150 feet across the Los Angeles River. It is inflated by pumping water into it. Eight feet in diameter, the bag holds 50,000 gallons of water when filled to capacity. It can be filled in about 25 minutes and collapsed in about 10 minutes.

Coordinated draperies and wall accessories were introduced by Fuller Fabrics at the recent Home Furnishings Market in Chicago. The drapery fabric is Chromspun acetate and rayon, with its motif repeated in the border of the wall hanging. Carpeting is a Verel-wool blend.





CROWN'S NEW C-TRON

LOW FREE FORMALDEHYDE RESIN

. . . diminishes odor problems

often eliminates afterwash

While imparting high quality crease and shrink resistance, Crown's C-TRON resin solves formaldehyde odor-problems . . . both in the processing plant and in the finished fabric. Its extremely low free formaldehyde content has enabled many plants to eliminate the afterwash process entirely!

Crown's representatives will gladly give you complete details concerning the new C-TRON thermosetting resin including how it may solve any resin problems you may have involving deleterious effects upon light fastness of reactant type dyestuffs. Call your man from Crown — or write direct!

Crown Chemical

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IN CANADA: Marwin Dyestuff of Canada Ltd. IN SWITZERLAND: Bubeck & Dolder, Basle, Switzerland.

the recent 15,890,000-acre cotton crop estimate of the U. S. Department of Agriculture is somewhat lower than originally expected, the condition of the crop so far points to a record per-acre yield. J. R. Williston & Beane feel that the crop may go as high as 15 million bales, and that all government stocks may well be sold at a minimum, with "B" cotton selling somewhat cheaper.

Machinery Purchases Soar. Capital expenditures for textile machinery this year are expected to be 30% higher than for 1958, according to an estimate of the U.S. Department of Commerce. First-quarter imports of foreign textile machinery were about the same as last year, but Department officials were unable to predict what the 1959 total would be.

PTI Expands Curriculum. Starting this month, the Evening Division of the Philadelphia Textile Institute and Drexel Evening College will offer a joint three-year program in science and engineering. Students who complete the program may continue as candidates for B.S. degrees at Drexel or may elect to continue in diploma programs at Drexel or PTI.

Low-Cost Loans to Germany. West German textile mills have filed applications totaling about $5 million for low-cost modernization loans from funds of the European Reconstruction Program. The loans are made at 5%, instead of the 6½-7% usually charged textile mills.

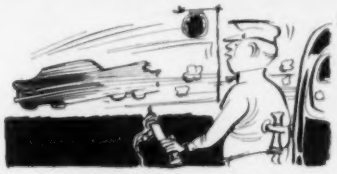
Urge Fabric Contract Change. Representatives of the Trouser Institute of America and the International Association of Garment Manufacturers at a recent joint meeting adopted a resolution calling for changes in the prevailing type of contract in the woolen and rayon fabrics industries. Mills are setting the conditions of the contracts, claim the garment men, with the result that shipments of defective goods are at their highest level in years.

Supply Tag Primers, Mills Asked. Manufacturers of man-made fibers and fabrics should supply basic information to retailers and to the textile industry concerning the Textile Fiber Products Identification Act, says Ephraim Freedman of Macy's department store. (An analysis of the Act, authored by lawyers specializing in the problems of the textile industry, appeared in TEXTILE INDUSTRIES for August. A few reprints are available.)

Textile Industry for Vietnam. Establishment of a textile industry with 145,000 spindles and 4,600 looms is an important part of Vietnam's 10-year program of industrial development, according to a report from Tokyo. First step will be the construction of a 20,000-spindle, 400-loom mill near Saigon.

Glass Fiber Plating. A new gas plating process, developed by Commonwealth Engineering Co. of Ohio, was recently used to nickel plate 45,000 miles of glass fiber at a cost of 99 cents. Commonwealth's new gas plating process is entirely dry, and so is claimed to have no injurious effect on water-sensitive materials. Included among the suggested uses is the metal plating of synthetic fibers.

No-Lube Teflon Auto Bearings. A fleet of six 1958-model taxicabs has been equipped with new-type ball joint suspension bearings and steerage linkage bearings lined with a woven fabric of Teflon TFE-fluorocarbon fiber. The cabs have each operated for 50,000 miles with no chassis lubrication, while similar cabs with conventional bearings were lubricated 36 times during the test, according to Du Pont Co., manufacturer of Teflon and co-sponsor with General Motors Corp. of the tests.



Textile Agency Members Named. The Commerce Department has named members of the special tripartite advisory committee to the Interagency Committee on Textile Problems: Industry members—W. J. Erwin, president, Dan River Mills; Seabury Stanton, president, Berkshire-Hathaway, Inc.; and W. I. Kent, president, Kent Manufacturing Co. Representatives of the general public—A. L. M. Wiggins, board chairman, Atlantic Coast Line Railroad; and Martin Gainsbrugh, chief economist, National Industrial Conference Board (third member to be named). Labor members—Emil Rieve, president emeritus, Textile Workers Union of America; Victor Canzano, vice-president, TWUA; and George Baldanzi, president, United Textile Workers of America.

Teron Ready Next Year. The new plant of Fiber Industries, Inc., now under construction near Shelby, N. C., will be producing commercial quantities of Teron polyester fiber by mid-1960, the company announces. The scheduling of

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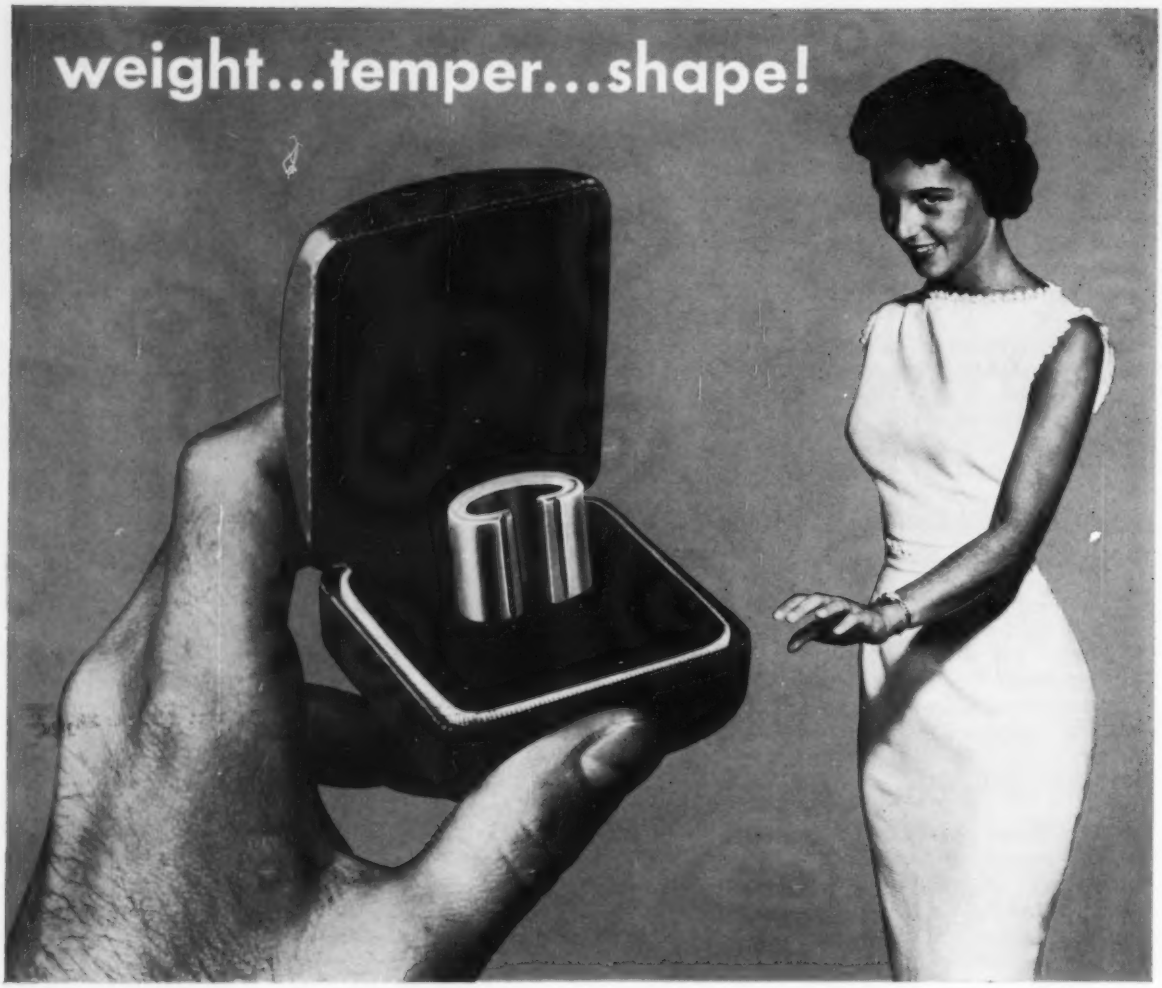
Parade of Progress

American Textile Machinery Exhibition
Atlantic City, N. J.
May 23-27, 1960



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Ring and traveler work as a team only when perfectly mated . . . a match you can insure when you specify CARTER TRAVELERS.

The absolute uniformity in specifications and quality of CARTER TRAVELERS is scientifically controlled by our staff of metallurgic engineers working in our own modern laboratory.

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TRAVELER COMPANY
DIVISION OF A.B. CARTER, INC. MANUFACTURERS OF THE BOYCE WEAVERS KNOTTER GASTONIA, NORTH CAROLINA

production a year earlier than originally planned was made possible by the granting of a license to Fiber Industries by the Du Pont Co., whose patents for Dacron polyester fiber expire in July, 1961. Teron will be produced in both staple and filament forms, and will be marketed by Celanese Corp. of America, co-owner with Imperial Chemical Industries Ltd. of Fiber Industries. The Shelby plant will have an ultimate capacity of 40 million pounds a year.

Cotton Pickin' Silica Application. A new method for applying colloidal silica to cotton fibers at the time of mechanical picking of the cotton has been announced by Monsanto Chemical Co. The usual point of application is in the mill. Colloidal silica is claimed to upgrade the cotton, particularly when applied to short fibers, and result in a number of advantages to the mill. In the new method, the silica is applied at the rate of less than four pounds to about ten pounds per bale; it is added to the water used to moisten the spindles of the picker.

Largest Blimp Uses Cotton-Neoprene. The first airship designed specifically for Airborne Early Warning missions was accepted by the U. S. Navy recently. The largest nonrigid airship ever built, it is 403 feet long, 118 feet high, and contains 1½ million cubic feet of helium in a cotton-neoprene envelope.

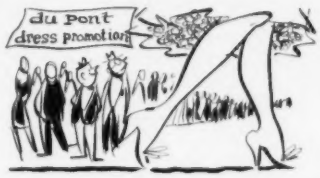
Need More Wool Imports—Wool Bureau. The U.S. will need to increase its monthly imports of apparel wool by 54% over the recent rate, if the January-April supply-demand positions should prevail for the rest of 1959, says the Wool Bureau. The visible supplies on May 1 of 175.4 million pounds would fall short of consumption and stock requirements by 128.4 million pounds, if January-April consumption rates are projected to the end of the year.

Seek Cotton Stretch Yarns. Clemson Agricultural College has been awarded a U.S. Department of Agriculture contract to do research in methods for producing permanently elastic cotton yarns suitable for the manufacture of socks and other knitwear. The

(Continued on page 127)

Merchandising Notes

Du Pont Co. will embark next spring on what it calls the most powerful dresswear promotion ever undertaken by its Textile Fibers Department. Special pro-



grams will be used for the various types of fabrics in which Du Pont fibers are used, and for the different markets in which they are merchandised. Ads plugging the program will be placed in fashion, service, and teen magazines; Sunday supplements; radio; and local and network television.

Holyoke Fabrics, Inc., is producing a special collection of upholstery fabrics of Acrilan, first to be merchandised under the new construction standards program developed by Chemstrand Corp.

Kimberly-Clark Corp. is distributing a new folder and technical bulletin describing the characteristics and applications of its "Kaycel" nonwoven fabric, claimed to combine the feel of cloth with the disposability and economy of paper. The fabric is currently being used in several places where it displaces textiles: disposable utility clothing; prepackaged, completely disposable obstetrical pack for use in hospitals; aprons and chef caps; and maintenance aisle runners. It is also available as yard goods by mail order from Sears, Roebuck [see below].

Munsingwear, Inc., has introduced a new stretch athletic-type golf sock with a cushion foot. Called "Grand Slam," it is coordinated with Munsingwear's "Grand Slam" golf shirt.

Royce Hosiery Mills, Inc., is offering a reversible sock with a different color on each side. The sock is an ingrain stretch nylon made on 240-needle machines.

Roxbury Carpet Co. is now marketing "Foam-Loom," a new carpet to which a foam underpadding has been permanently molded. Ease of installation, with or without professional help, is expected to be the feature most interesting to the consumer. Sections can be repaired if damaged by burns or stains, and wall-to-wall installations can be taken up without damage to carpet or floor.

Sears, Roebuck & Co. includes a paper fabric reinforced with nylon webbing in its new fall-winter catalog. The fabric, "Kaycel," is made by Kimberly-Clark Corp.

Woolens and Worsteds of America, Inc., has attained its goal of $300,000 for a two-year program to build the prestige and sales of American-made wool products. More than 70 mills have enrolled as members of the association.

Pellon Corp. sponsored a special preview in New York for fashion authorities and the press of the fashion show presented at the American Exhibition now winding

up a six-week run in Moscow. Pellon is a co-sponsor of the show. [But the preview raised a storm among press and fashion representatives who attended. Many of them felt that it presented someone's idealized version of life in America, rather than the real thing.]

Sales upped 400% since Pogrelis-Meyer, Inc. started Heller Factoring

"Pretty Maid" casual wear was making many misses happy, but the Pretty Maid line presented problems to Harry A. Meyer and Ben B. Pogrelis; their company needed growth capital. That is why, in March, 1951, Pogrelis-Meyer Inc. became a Heller factoring client.

Since then, with the help of Heller service and counsel, the partners have been free to devote their energies to styling, producing and merchandising. Bad debt losses were eliminated, and so were the clerical expenses of credit, collection and accounts receivable departments. Capital has always been available and it turns over faster, does more work, earns more. Buying has been advantageous. Overhead has been spread by pre-season production in this seasonal business. A bigger slice of the market has been won — a 400% sales increase since Heller service began.

Could more money help YOUR business? Heller offers working funds to suit your need. Write for free brochure. "Profit Through Factoring."

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RECENT TECHNICAL AND COMMERCIAL DEVELOPMENTS

by J. B. Goldberg
Consultant to the Textile and Allied Industries

Exclusive

FIBERS AND YARNS

Monofilament Yarn Manufacture. A London firm recently exhibited a complete plant for the manufacture of nylon and polyethylene monofilament yarns. It was reported that yarns of diameters up to 0.06″ could be produced at speeds of up to 500 feet per minute.

Synthetic "Hair" Yarns. Distributed in Great Britain and Canada by an English concern, a new French "Crin Vecta" monofilament yarn was said to be manufactured of cellulose and synthetic resins. This product was designed for use in the manufacture of tailors' linens and similar fabrics to replace hair yarns. Heavier monofilaments have been produced for making bristles for brushes.

Bulky Cellulosic Yarn. The American Viscose Corp. has received a patent on a novel process for the manufacture of a bulky yarn from pigmented rayon by super-twisting, impregnating with formaldehyde and curing in the presence of a catalyst, then detwisting to yield a "wool-like" effect, substantially fast to washing.

New Names Assigned to Yarns. The U. S. Rubber Co. has adopted the name of "Lastex S" for their elastomer type yarn formerly identified as "Vyrene."

New Cross Linked Rayon. The Swiss firm of Viscose Emmenbrucke is producing a new high-strength cellulosic fiber, Z-54, said to be similar to Fiber 40 of American Viscose Corp., Fiber 500 of American Enka Corp., and SM 27 of Courtaulds (Alabama) Inc. The fiber was originally developed by Tachikawa Laboratories of Japan, and has been licensed to a Belgian and a French firm

MACHINERY AND PROCESSES

Automatic Doffers. It has also been reported that a new Spanish automatic doffer has been demonstrated by Wilcox & Gibbs at the Trion, Ga., plant of Riegel Textile Corp., but no details have been released.

Low-Cost Spinning Frame. Whitin Machine Works reportedly are planning to market a new spinning frame to sell at about $35 per spindle.

Improved Worsted Drawing and Spinning. Scheduled for exhibit in Milan this month is a new three-operation Ambler Superdraft system. The Amblerdraft Finisher has a completely new type of drafting zone and it is claimed that all Continental spinners can convert any twistless sliver of suitable weight per unit length into twisted rovings.

New Needle Cooler. A Dayton, Ohio, firm is now marketing "Sewcool," a new needle cooling device which operates on a compressed chemical vapor principle. The unit sprays a fine vapor on the needle, cooling it by evaporation. The device is considered particularly effective for use on machines using synthetic threads, permitting high-speed operation without thread damage.

New Sizing Unit. J. Hibbert & Co., Ltd., of England is exhibiting a new warp sizing unit with stainless steel cans and featuring simple operation and high production rate.

Small-Scale Spinning Machinery. A Polish concern is offering a group of machines for small-scale production. Included are an opener, non-automatic carding set, a single-sided ring spinning frame, and a twister.

FABRICS AND FINISHES

Bleaches for Nylon and Wash-Wear Fabrics. Two new products introduced by the Du Pont Company are intended for consumer use on resin-treated wash-wear garments without danger of yellowing and as a restorative bleach for nylon fabrics. These monopersulfate compound "Oxones" are to be supplied to manufacturers of dry bleaches and cleaners for packaging under their own names. Materials are said to be effective in removing stains without damaging or otherwise weakening the fabrics.

Rayon Wash-Wear Fabrics. The American Enka Corp. has announced the development of a new process for the finishing of rayon fabrics to impart wash-wear characteristics. The fabrics made of Enka rayon yarns will be merchandised under the name of "Perl-Dri" and are claimed to be suitable for machine washing and drying with little ironing. Among the first constructions to be marketed will be a 100% filament rayon crepe for the blouse trade, but others containing spun rayon yarns will be introduced at a later date.

Improved Lightfastness on Wash-Wear Fabrics. "Permafresh LF" resin has been introduced by the Warwick Chemical Co. in cooperation with Arnold Hoffman Co. as a new compound to yield improved lightfastness properties of dyes, particularly those of the fiber reactive type, used on wash-wear fabrics. Certain shades are claimed to show up to three times the fastness obtained when ethylene urea resin is used. Resistance

(Continued on page 185)

PENSION & PROFIT-SHARING PLANS

Serving businesses large and small since 1891

TRUST COMPANY OF GEORGIA
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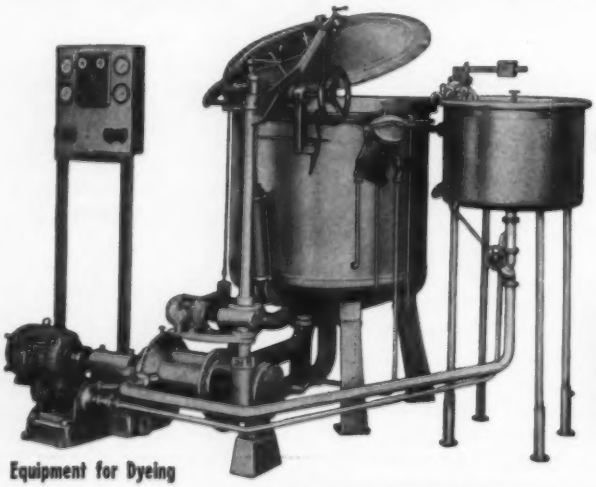
MACHINERY FOR DYEING

Bleaching and Drying of;
Raw Stock Fibers - Tops - Yarns in Skeins, Packages, Cakes, Warp Beams - Cloths



Equipment for Dyeing

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RAW STOCK

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Qualified Representatives Wanted

EXECUTIVE VIEWS

Prepared by a man who is closely identified with the textile industry.

Inflationless inflation

LAST SPRING the Associated Press reported from Washington, "Harvard economist Sumner Slichter said Friday the government should plan a three-billion-dollar deficit next fiscal year to create jobs, while cutting all tariffs to check inflation."

Needless to say, this startled some of the few remaining conservatives in our Congress, since going in the hole $3 billion dollars to buy inflation, and then wrecking a few domestic industries to prevent it, seems to be a rather complex procedure.

From what we have been able to learn from some of Mr. Slichter's writings, he is a "creeping inflationist." It seems to be his idea that we need to depreciate the value of our money about two per cent a year to keep the national economy in a healthy condition. Maybe it would be even healthier if we depreciated the value of money four per cent or six per cent a year, but the idea seems to be a bit strange to people with old-fashioned ideas about money.

We know pretty well what would happen by tossing three billion dollars more to the inflationary wolves, and we also know pretty well what would happen if Mr. Slichter's suggestion to do away with tariff protection were adopted. The textile industry would soon be out of the doldrums and into the morgue, and probably other industries for which we are not qualified to speak, would be in a bad way.

The Associated Press dispatch went on to say, "Democratic members, many of whom blame rising prices chiefly on big business, winced at Slichter's testimony that the wage demands of powerful unions are the foremost cause of higher living costs."

SOME OF THESE wincing members are probably such complete captives of the labor unions that they have no alternative but to do the union bidding, and surely nobody is so unobservant as to fail to realize that practically all of the higher cost of living is due to wage increases. To try to blame the high cost of living on big business is simple stupidity, because a brief reference to official reports on the profits of big business will indicate that these could not possibly affect the cost of living seriously.

It is the working man who gets the bulk of all the money put into circulation in the United States, and when the working man's unions obstinately insist on raising wages every year, they automatically raise the cost of living.

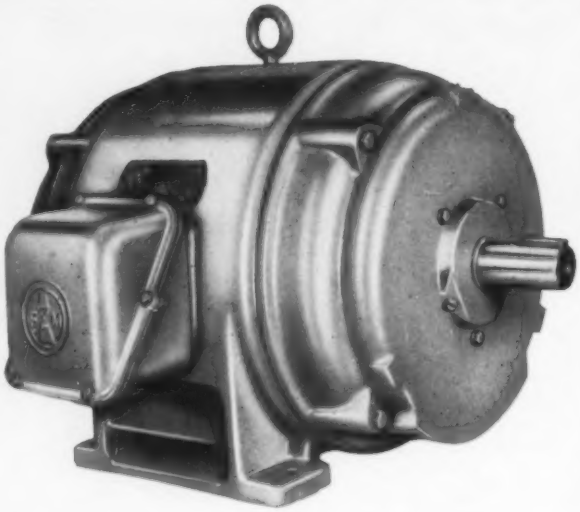
About the same time in the then-current issue of *Reader's Digest*, David Lawrence said,

> But if the dollar is in trouble, it is not because of our budgetary deficits alone. It is because our price level is being driven upward in the most reckless wage-price spiral which the United States has ever experienced.
>
> The American people can apply a check to the "spenders" in Congress by threatening to defeat legislators who refuse to vote for curtailed expenditures, and who insist on their pet extravagances. But what can the people do to check the irresponsibility of labor unions?
>
> We have, in effect, a supergovernment—a labor-union monopoly that ignores the public interest, as it seeks to extort more and more, even from companies that are operating in the red.

Both Mr. Slichter and Mr. Lawrence are as right as they can be in attributing the increase in the cost of living to labor union policies which are aimed at extorting money from the public regardless of circumstances or consequences. A labor union is an extortion racket, and no amount of euphemistic sugar-coating can make it out to be anything else.

IN THIS SAME issue of the *Reader's Digest* is an article on Clarence Darrow, who fought frequently and effectively for the rights of laboring people, back in the days when the laboring man often got the short end of the deal, and was in no position to kick the national economy around. In testifying before a congressional com-

Now—F-M Spiro-duct cooling!



Spiro-duct double-end system: In standard motor shown, air enters shaft end and discharges between feet on conduit box side of motor. Conversely, air entering free end discharges opposite conduit box. In motor with conduit box located opposite to standard position, direction of air flow is reversed in relation to drive shaft location.

Spiro-duct moves cooling air in clockwise spiral direction, through space between stator core and motor frame.

Cools entire core and winding regardless of direction of rotation!

From the research and development laboratories of Fairbanks-Morse comes Spiro-duct cooling—the most effective design available for positive cooling of Dripproof motors—available now in F-M rerated KZK motors, in frames 364U through 445U.

Two completely independent paths for cooling air are provided in the Spiro-duct double-end system. All portions of the stator core and winding are thus assured equal cooling, regardless of direction of rotation.

With completely redesigned and improved enclosure as well as ventilating system, Fairbanks-Morse offers an exceptionally cool motor with maximum protection against falling particles or dripping liquids.

For expert assistance in specifying, write Fairbanks, Morse & Co., 600 South Michigan Ave., Chicago 5, Illinois. Fairbanks-Morse motors include all types in alternating and direct current, in ratings from ½ to 10,000 HP.

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EXECUTIVE VIEWS
(from page 85)

mittee, Mr. Darrow said, "We are paying too high a price for social betterment. Labor must continue to progress but not by inflicting injustice on others. When you are dealing with human society, the means are fully as important as the end."

This has always been our position—that the working man is the backbone of the United States, and that his welfare is inextricably tied up with the welfare of the country, but that it is just as vicious and just as inequitable to let labor unions pillage the country, as to let any other kind of Robber Baron do it.

Mr. Lawrence is exactly right when he says that the demands of labor racketeers have no relation to the public interest, but are influenced only by the personal considerations of the racketeers themselves and the internal union pressures, so that wage increases are constantly being demanded of companies which are actually losing money.

Two days subsequent to the publication of the AP report mentioned at the beginning of this article, *The Atlanta Constitution* contained a large display advertisement by the United Steelworkers of America. The caption was, "Memo to the Dairy Industry of America. Would an extra billion dollars give your sales a lift?" The body of the advertisement was aimed at the idea that if 1,250,000 steelworkers, who are already just about the highest paid workmen in America, can extort an extra billion dollars from the American public, it will benefit everybody, because the steelworkers will have more money to spend.

The advertisement ended with the slogan, "Remember, the more you earn, the more you buy!", which is another way of saying, "The more *we* get the less *you* buy."

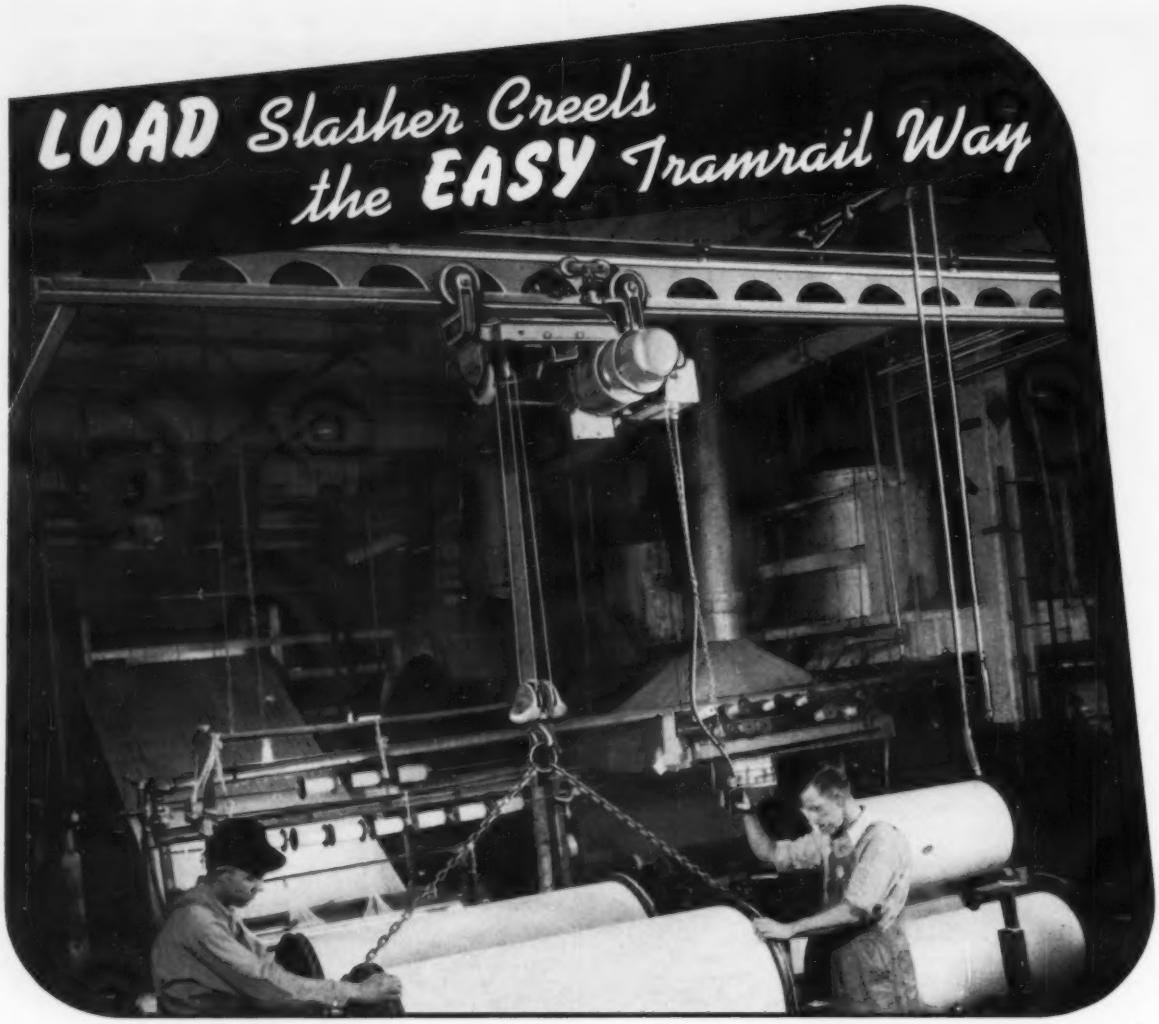
IT COSTS MONEY to publish advertisements like this, and there is no reason to think that Atlanta is the only city covered by such

(Continued on page 127)

FUTURE EVENTS

Date		Event	Location
Sept.	9-11	Council, Council Committees, Research Committees AATCC	Hotel McAlpin New York City
	10-11	Fiber Society, Inc.	Princeton, N. J.
	10-21	3rd International Textile Exposition	Samples Fair Grounds Milan, Italy
	12	Southeastern Section AATCC	Ida Cason Callaway Gardens Pine Mountain, Ga.
	17-18	Combed Yarn Spinners Association annual convention	The Cloister Sea Island, Ga.
	17-18	Chattanooga Yarn Association outing	The Read House Chattanooga, Tenn.
	18	Delaware Valley Section AATCC	Reading, Pa.
	19	South Central Section AATCC	Hotel Patten Chattanooga, Tenn.
	22-24	Southeastern Plant Engineering and Maintenance Seminar and Show	State Fair Arena Raleigh, N. C.
	23-24	Northern Textile Association annual convention	Wentworth-by-the-Sea Portsmouth, N. H.
	25	Niagara Frontier Section AATCC	Niagara Falls, Ont., Canada
	25	Northern New England Section AATCC outing	Wachusett Country Club West Boylston, Mass.
	25	Western New England Section AATCC	Blake's Restaurant Springfield, Mass.
	25-26	Piedmont Section AATCC	Barringer Hotel Charlotte, N. C.
	28-29	American Gas Association Textile Processing Symposium	Sedgefield Inn Greensboro, N. C.
Oct.	1-2	Textile Quality Control Association	Grove Park Inn Asheville, N. C.
	3	Textile Operating Executives of Georgia slashing and weaving discussion	Georgia Tech Atlanta, Ga.
	7	Chemical Finishing Conference	Mayflower Hotel Washington, D. C.
	8-9	Southern Textile Methods and Standards Association	Clemson House Clemson, S. C.
	8-9	North Carolina Textile Manufacturers Association convention	Carolina Hotel Pinehurst, N. C.
	7-10	AATCC national convention	Sheraton Park and Shoreham Hotels Washington, D. C.
	10	Alabama Textile Operating Executives carding and spinning discussion—9:30 A.M.	Langdon Hall Auburn, Ala.
	15-16	Quartermaster Association Annual National Convention	Hotel Statler-Hilton New York City
	17	Textile Education Foundation, Inc.	Georgia Tech Atlanta, Ga.
	19-23	National Safety Congress and Exposition	Conrad Hilton Chicago, Ill.
	24	Mid-West Section AATCC	Bismarck Hotel Chicago, Ill.
	27	Institute of Textile Technology technical advisory committee and board of trustees	I.T.T. Charlottesville, Va.
1960			
Feb.	8-9	National Cotton Council annual convention	Dallas, Texas
Apr.	7-9	American Cotton Manufacturers Institute convention	Americana Hotel Bal Harbor, Fla.
May	23-27	American Textile Machinery Exhibition	The Auditorium Atlantic City, N. J.
May 31-June	2	Cotton Research Clinic	Grove Park Inn Asheville, N. C.
June	23-25	Southern Textile Association annual convention	Grove Park Inn Asheville, N. C.
Oct.	3-7	Southern Textile Exposition	Textile Hall Greenville, S. C.

LOAD Slasher Creels the EASY Tramrail Way



It is so simple and fast to load beams into slasher creels with Cleveland Tramrail, it is no wonder that so many mills — large and small — are rapidly swinging over to this modern way of handling.

In jiffy time a heavy beam can be set into a creel with minimum loss of production from slasher shut-down. The same hoist that inches the beam carefully into position usually selects the beam out of storage. Thus delivery is direct and all time-consuming rehandling is eliminated.

Most likely, there are installations of Cleveland Tramrail near you, that you can visit and study. However, the most effective way of demonstrating its possibilities is to select a good test job in your own plant and put in an installation of Cleveland Tramrail. Then carefully study the equipment and make accurate record of the results. In this manner, you can determine first hand whether or not you can profit by its use.

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THE CLEVELAND CRANE & ENGINEERING CO.
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CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

Textile Industries
FOR SEPTEMBER 1959

Wire on more than a third of the 301 cards in the Beaumont Division plant of Spartan Mills, Spartanburg, S. C., already has been gound with these "Micr-O-Grind" heads which produce sharp, needle-like points on the teeth. Benefits to the mill are reported here. These heads fit on conventional traverse grinding equipment, but note how different they are from those customarily found in the mill. Instead of ordinary abrasive fillet, spiral discs are utilized to take the heel off the wire.

Needle pointing has its points

Three mills attribute improved yarn quality and extended grinding and stripping intervals to it

Staff prepared Exclusive

NOTABLE improvement in the carding operation has been reported by operating executives in three mills which are using recently developed card grinding equipment that produces sharp, needle-like points on the wire.

South Carolina Weaving Mill. When production of medium count yarns from a cotton-nylon blend (75 per cent cotton, 25 per cent nylon) was started at the Beaumont Division plant of Spartan Mills, Spartanburg, S. C., it was observed that the nep count was exceptionally high—about 14 neps per grain. Something had to be done to improve the condition.

First, card production was cut from 9 lb per hr to 6½ lb per hr. This change brought the nep count down to 8- 9 neps per grain, according to J. L. Jordan, Beaumont's overseer of carding.

Then the cards on which this cotton-nylon blend was being processed were ground with a recently developed head (see the above illustration) which produces a sharp needle-like point on the wire. Additional improvement in processing conditions was noted.

Later, in September, 1958, while running some poor quality cotton, the needle-point grinding head was tried on eight cards of the group on which this stock was being processed. A definite improvement in nep count was noted, and the cards ran 20 days before regrinding was necessary. (11 days is the normal grinding interval in this mill).

Because of the quality improvement obtained with the needle-point grinding, extensive use of the equipment was decided upon. When this report was written, more than 100 cards had been ground with the new heads, and they had been in service more than three months to the satisfaction of everyone at Beaumont.

While the test mentioned above indicated that it may be possible to extend the grinding interval for these needle-point cards, the 11-day interval is still used at Beaumont. However, because considerably less time is required for regrinding these cards, savings in the form of less labor and increased

production accrue to the mill.

Since there is less loading of the wire, card stripping is easier and does not have to be done so often. The stripping cycle for these cards has been extended from two hours (the interval on conventionally ground cards processing the same stock) to two hours and forty minutes.

As shown in the accompanying photo, two of the Benjamin Booth "Micr-O-Grind" heads are utilized for simultaneous grinding of the cylinder and doffer.

Experience at Beaumont has been that one grinding cycle is usually required to familiarize card grinders with the details of using the equipment properly. They are cautioned to set the heads no deeper than 3/64" - 1/16" to positively avoid damage to clothing.

North Carolina Yarn Mill. At Cleveland Mills Co., Lawndale, N. C., where low grade mixes consisting of strips and short staple cotton are carded at 14½ lb per hr and other grades at lower speeds, the needle point grinding head has been in use since January, 1959. When this report was prepared 35 cards had been ground with the new equipment.

It was interesting to note that on some of these cards the flats had been ground with the equipment to provide the needle-like point on the flats wire. A special drive arrangement was provided to grind the flats at 1½ flats per minute. The traverse is faster than normal when grinding flats, but surface speed remains the same, according to Charles Forney, Jr., superintendent.

Cards with conventionally-ground and needle-point ground flats were tested, and it was found that less regrinding is necessary for flats with needle-point wire. Grinding depth is controlled to a maximum of 1/16", and regrinding requires only one hour after the initial grinding of two to three hours.

About half the card room operates with needle-point-ground wire, which is especially applied to the high-speed cards. The size of neps has been noticeably reduced (about half normal size), and the number of neps has been cut 10-12 per cent.

Ends down per thousand spindle hours have been reduced 10-15 per cent on 8s to 12s yarn. An electronic tester and Spectrograph are used to check results against mechanical condition of machinery, as well as the smoothness and evenness of yarn. Improved spinning was quickly noted.

Formerly, the grinding interval employed was once every 11 days; now it is once every 30 days, and the cards are sharper at regrinding time than they were before the change to needle-point grinding. However, in an effort to get still better results the management is contemplating a change to grinding once every 25 days.

Flats ground with the needle-point producing equipment require less regrinding, test results in one of the mills indicated

It is much easier to strip with vacuum equipment, and a considerable improvement has been noted in results of vacuum stripping since the change in grinding equipment. Card strips are reduced and are of a lower grade now, Mr. Forney indicated.

Another Yarn Mill. A mill which makes all-cotton sales yarn ranging in size from 12s to 30s had been running 20 cards ground with the needle-point equipment for about 14 weeks when this report was prepared; also, two cards that had been clothed with new needle-point wire which is marketed by the manufacturer of the grinding head. In this mill SM 1 1/16" cotton is carded at a rate of 10 lb per hr and LM 1⅛" cotton at 13 lb per hr.

Improvements noted by the mill laboratory, as a direct result of the change in card grinding, include smaller neps. And although the nep count varies from card to card, a 50 per cent reduction in neps was noted on the first grinding.

Some cards improved on the second grinding; some did not. Otherwise, card sliver was unchanged. Better grade yarn resulted, and a half grade improvement in yarn quality with a maximum of one grade improvement on LM cotton was in evidence.

No difference was noted in nep count at the end of grinding cycle as was noted right after grinding.

To date 50 cards have been ground with the needle-point equipment and they are reground every six weeks. The grinding cycle with conventional equipment is once every 15 days.

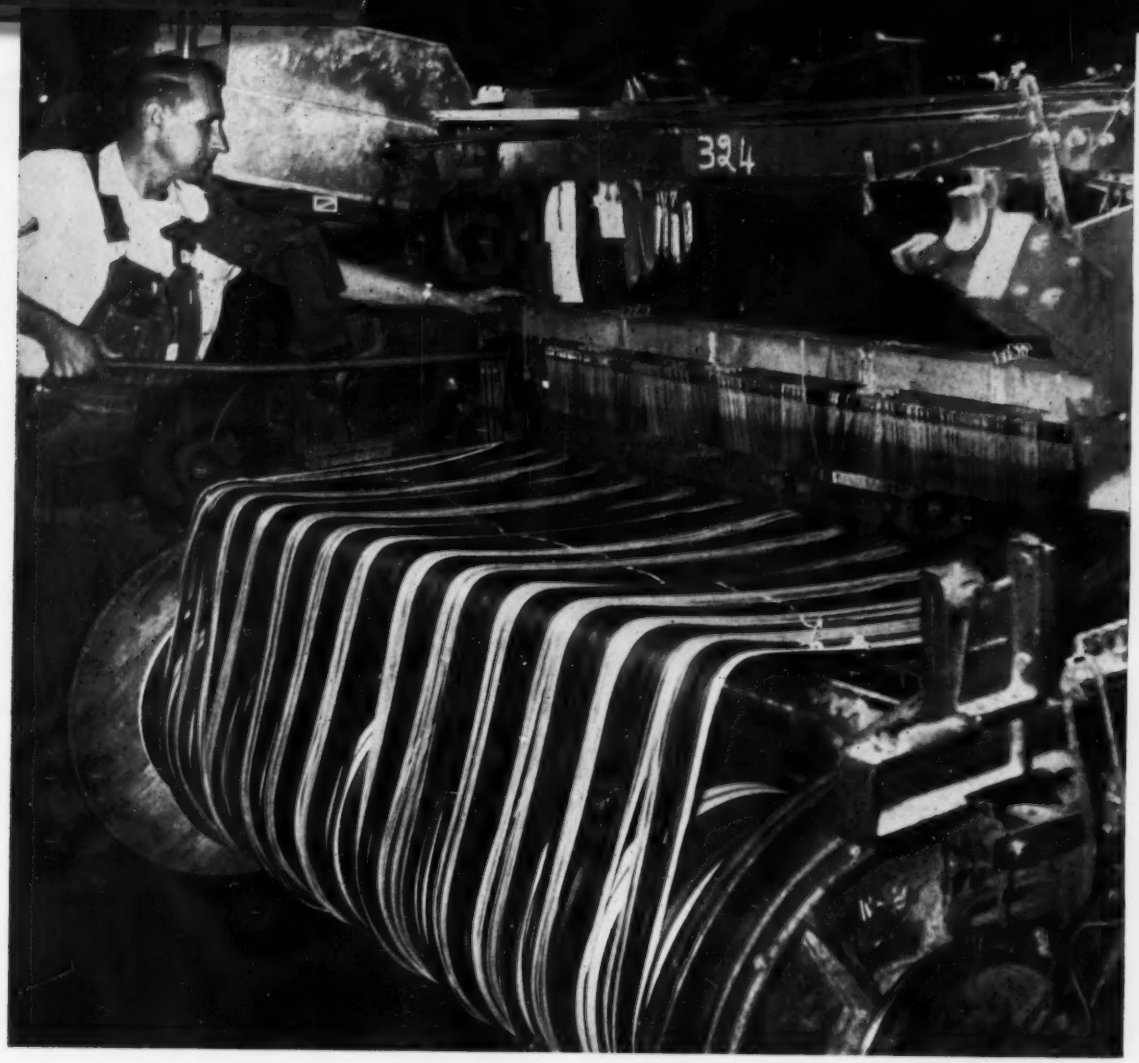
The grinding fillet is more expensive than the conventional, but it lasts longer, according to the mill superintendent. And grinders must be careful in handling the grinding heads to be sure the blades don't get broken. One disc was broken before the first card was ground as a result of carelessness.

The cards load up less after the needle-point grind. The lowest nep count reported since the change was 22 per 100 square inches of card web on SM cotton of 4-Micronaire reading. The average on this stock was 37 neps per 100 square inches. Before the change the average was about 70 neps per 100 square inches.

On LM 1⅛" cotton of 3.5 Micronaire, the nep count averages about 252, and with needle-point wire this figure was brought down to about 120 on the average.

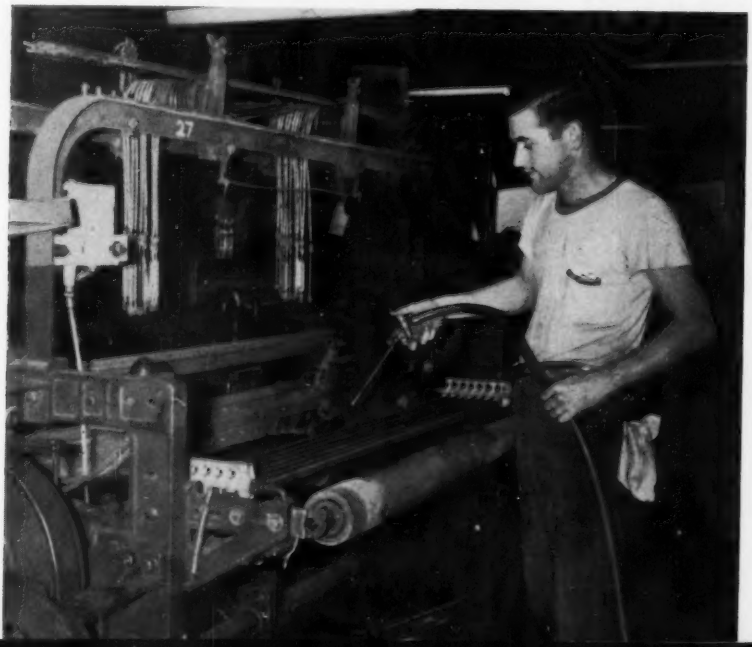
Stripping is easier, and the stripping cycle has been cut by one third. Formerly, cards were stripped three times a day; now they are stripped twice a day. Also, 10 per cent fewer strips are taken out of the stock.

Experiments and tests continue in this mill to more fully exploit and confirm the potential of the needle-point grind.



HANG 'EM BY THE NUMBERS

Cut smashing costs and save time, too, with this step-by-step warp hanging procedure



by George Williams
Exclusive

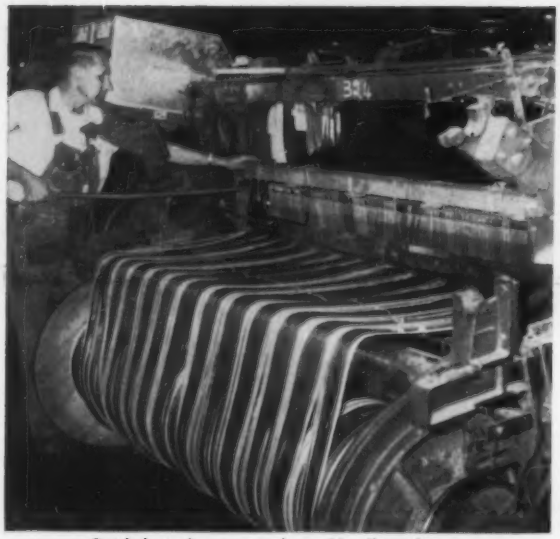
MANY mills have different systems for warp hanging. Some are very good; some are very poor. My experience has shown the following procedure to be generally satisfactory for good results:

1. Determine which style is to go in the loom
2. See if the loom has been cleaned and is ready for a warp
3. Put the leader wires and harness cords on the loom
4. Install the harness springs

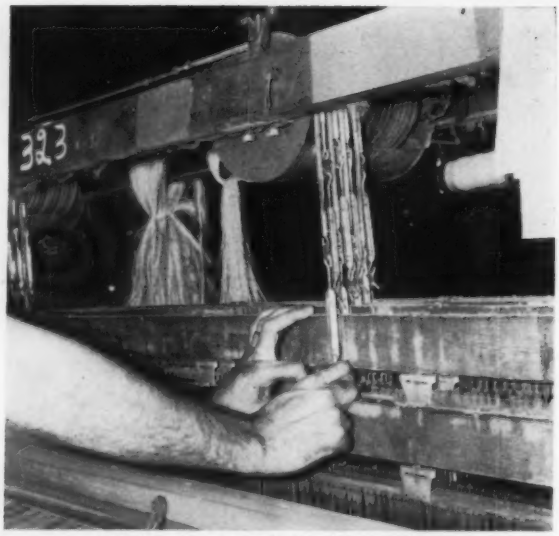
Be sure that the loom is cleaned thoroughly while the warp is out.

Put correct pick wheel or gear on loom.

Put warp apron on loom.

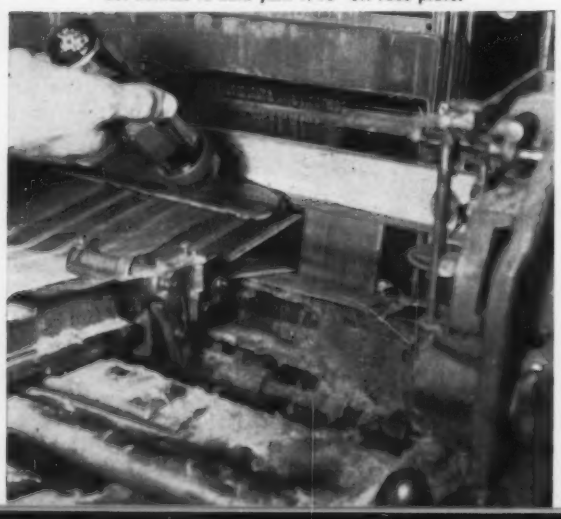


Get help to lay warp in loom. Handle with care.



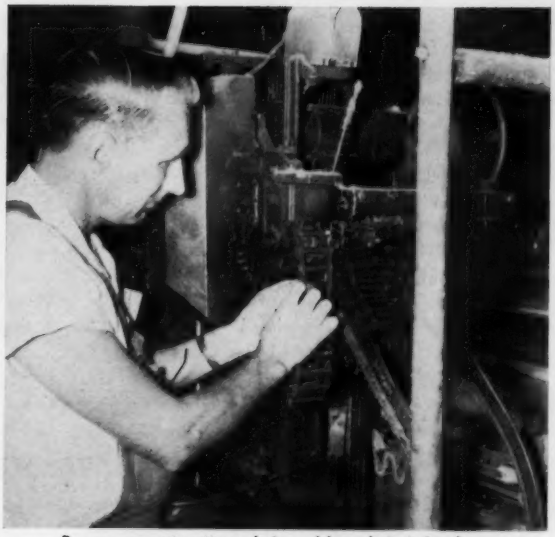
Hook up harness cords. Check harness hooks.

Set harness to hold yarn 1/16" off race plate.

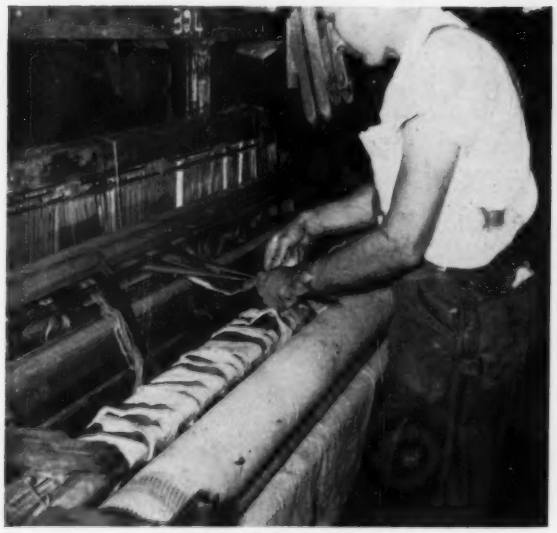


Mark loom off warp board.

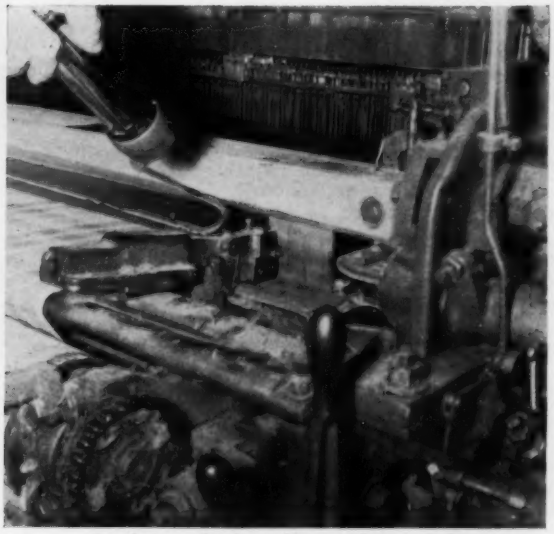
Be sure all parts are oiled or greased.



Be sure correct pattern chain and box chain is in place.



Tie warp ends to warp aprons.



See that temples do not hit race plate or reed.

under the loom

5. Mount the correct pick wheel or gear to take up one tooth at the time

6. Hang warp apron on loom

7. Check loom to see that it has been oiled and greased

8. Put pattern chain and box chains on and check for the right style

9. Set reed cap on loom to help with the rods used to lay harness in loom

10. Set drop wire stands and whip rollers for the style being installed

11. Check warp let-off motion

12. Get pipes, jacks, or whatever tools are used to lay warp in loom

13. Get the warp, and get help if warp trucks are hard to push

14. Push warp to loom, and get help to lay it in loom (don't take chances on getting hurt)

15. Lay harness in loom

16. Lay warp in loom, but handle with care—the better the warp and harnesses are handled at this point, the quicker the job will be finished

17. Hook up harness cords, and put reed in reed cradle

18. Put warp beam in let-off

19. Turn loom to front center; tie harness to reed cap to hold harness still

20. Tie warp ends to warp apron

21. Brush warp from drop wires to whip roller with a warp brush to straighten crossed ends

22. Cut drop wires loose from the harness

23. Pull back to drop wire stands one slot at the time until all the drop wires are back—handle with care; don't break out warp ends; put in or change drop wire slots; and put in stand and tighten

24. Cut harness loose from reed cap, and check harness hooks to

see that they are all hooked up and are divided correctly; go under loom and hook up harness springs to harness and spiders

25. Set temples; put caps on; see that temples do not hit race plate or reed

26. Pull warp over about 6" to straighten warp out

27. Turn loom with hand wheel until the shed opens

28. Check the harness cords to see that they are not crossed

29. Turn loom over to back center, throw shuttle through with filling in it, then turn it over again with hand wheel (throwing shuttle through while doing this discloses any harnesses hanging without breaking out warp ends)

30. Pick loom one pick at the time until about two inches of cloth are woven. Be sure all the ends are in.

31. Set harness so the yarn will be 1/16" off race plate. Be sure the harnesses are level when head is crossing.

32. Raise flag for fixer, and clean up around loom

33. Get the warp truck, push it about 10 feet from loom and stop.

34. Look back to see if anything is left on the floor (if so, go back and get it)

35. Take warp truck back to drawing room.

36. Go to the warp board and mark off.

If the warp is hung like this a smash hand isn't needed, for there will be no ends left out.

U. S. cotton experts report on Soviet textile industry

by William J. Martin

Cotton Utilization Specialist
U.S. Department of Agriculture

Abstract*

■ THE TEXTILE industry of the Soviet Union comes under the direction of the USSR State Planning Commission (Gosplan), which exercises over-all control from the time the seed cotton reaches the gin until it is bought by the consumer as yarn or fabric or is exported.

The Russian textile industry relies principally on natural fibers—cotton makes up 78.7 per cent; wool, 4 per cent; linen, 6 per cent; silk, 4.8 per cent; and man-made fibers, 6.5 per cent.

The cotton mills of the USSR are producing mostly fabrics of medium quality in attractive colors but with a relatively narrow range of colors and patterns. Most mills we observed were operating nearly three full shifts a day, but over-all production of cotton goods seems to be far below what is needed for consumption in the Soviet Union.

Prices of cotton goods and wearing apparel are high in relation to wages and in effect provide an indirect system of rationing.

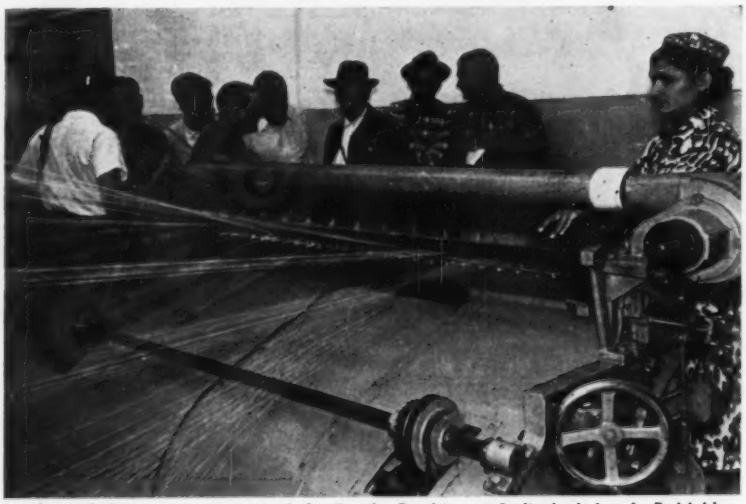
Judging from the few mills we visited, the Russian textile industry seems to be far behind that of the U.S. or Western European countries. Much of the machinery is old, and new machinery is coming in very slowly. Some very good machinery was on display at the All Union Exposition in Moscow, but we did not see much of it operating in mills.

Labor seems to be plentiful. Women made up about 70 to 80 per cent of the work force in the mills we visited, and they even did jobs which are always done by men in U.S. mills. Work loads were said to be generally in line with those of the U.S., but from our observations a lot of people were doing very minor jobs.

Since there is no real economic competition, quality is a minor consideration—production is the thing. Prices are fixed by the state, and nowhere did we find much concern over the relationship of price and quality.

Everything is pointed to the future: There is much talk that the Soviet Union will be the No. 1 cotton textile nation by 1965. A considerable increase in capacity is apparently under way or planned, but it is entirely possible that even after the textiles are produced, domestic consumption will be restricted by high prices, as it is now, for the purpose of expanding exports of yarn and fabric.

The industry is currently [in late 1958] operating below capacity, because of the high prices, while exports of cotton are averaging about 1.5 million bales a year. The continuation of such policies could result in rather large quantities of raw cotton being freed for export even though the industry had unused capacity, and in spite of a genuine need for more textiles by the Russian people.



Members of the cotton team visited the Textile Combine at Stalinabad. L-r: L. P. Mobley, E. J. Overby, Paul Camillucci, Mr. Khalmatov (the mill manager), a Russian interpreter, Mr. Martin, V. L. Stedronsky, B. M. Waddle, and the Russian girl operative. The plant had 43,000 spindles and 900 looms at the time the team visited it. This was to be almost doubled by the end of 1959, and increased to 120,000 spindles and 3,000 looms by 1965.

*From "Cotton in the Soviet Union," report of a technical study group of cotton specialists who made a 32-day tour of Russia's cotton-producing areas and mills. Copies of the complete report are available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C., at 20 cents each.

CREASING ...big problem or small?

Creases can be a problem to any finishing plant; they're particularly serious where a wide range of fabrics is processed

by J. P. Millburn

Exclusive

QUITE OFTEN in a cotton finishing plant, where a wide range of fabrics is processed, creasing can be a serious problem. On some fabrics with fine textured surfaces, creasing not only causes a localized distortion but produces unsightly streaks in dyeing. On other fabrics, though not visible to the naked eye before dyeing, creasing might also cause streakiness, depending on where it happened along the route.

Unlike the bleachery that specializes in a given class of fabrics, a diversified plant must have some flexibility—or more precisely, the practical know-how to adapt conventional equipment to whatever constructions come along. This means that different processing routes might have to be taken, that special precautions might have to be resorted to, and supervision tightened up, since the same pieces of equipment are required to do a little bit more.

Preparatory operations vary widely among bleacheries, and there can be disagreement as to the best methods of preparing fabrics for continuous dyeing with vats, sulfurs, and azoics, just to mention three important dyestuff classes. It is not the intention here to discuss the various processing routes which are possible. These are limited by the equipment available—whether kier boiling or peroxide bleaching is employed; whether hypochlorite bleaching is done continuously or in the conventional, discontinuous manner.

Further, even the mercerizing operation has been influenced by the trend to combine operations and eliminate others. Wet mercerization, for example, eliminates drying after bleaching, but can include this operation in the mercerizing proper. Hence the possibilities for processing various fabrics are many, and this discussion is by necessity restricted to general wet processing in the open width form.

Causes of Creasing. Creasing can imply improper or severe physical handling of a given fabric. Yet it is often difficult to determine what severe handling of a fabric can be until it is dyed and finished. However, experience can indicate what type of fabrics are apt to be troublesome.

Some fabrics immediately fall into this category: sateens, twills, and fabrics which have a tendency to curl. But there are many fabrics which do not present this particular problem, yet which when creased can produce a streaky appearance in dyeing.

While a classification of dye streaks would be difficult, and certainly could not apply to every plant, since equipment and processes differ, it is nevertheless possible to determine by experience and trial in which process they have occurred. Bleaching and preparatory operations almost invariably come under suspicion first. Yet a prolonged streaking problem will bring other operations under suspicion, including dyeing itself.

Frequently, inspection of operations will show that creasing is occurring in more than one place; and there is a tendency at such times to regard every creasing condition with suspicion. What often happens is that the most serious creasing conditions are removed, and when streakiness is overcome, it is not always possible to say where it had taken place.

However puzzling a streaky condition may appear on the dyed fabric, a close examination should lend some clue to its origin. Together with such an examination, it is good practice to study the dyed fabric's processing routes, noting if part or all of the lot has this streaked appearance.

This preliminary work will save time by eliminating from inspection those operations or pieces of equipment which were not used. Experience should indicate whether the streaks were caused when the fabric was processed in the rope or in the open width form. Streaks in the first category are usually more numerous in the piece, and some have a feathered design wnich confirms that they were done in the rope form. Their appearance and location conform to the irregular folds of the fabric (though more or less in warpwise direction).

Streaks formed in open width, on the other hand, generally run a diagonal course, moving from one side of the fabric to the other, stopping momentarily, perhaps, to start over again. This latter condition usually indicates a serious creasing problem.

At this point it might be well to exclude from further discussion the so-called warp streaks, which are inherent to the grey fabric. These, individually or in number, run a perfectly straight course, usually throughout the length of a fabric piece—beginning and ending with a seam. No amount of extra preparation can overcome this kind of streak, which has a heavier dyed appearance. It definitely cannot be attributed to any operation in the finishing plant.

Preventing Creases. One of the first operations that can offer difficulty from the standpoint of creasing is opening and drying. This applies particularly to fabrics which have a tendency to curl. The preventive measures which will be outlined here are nothing more than sound practices to begin with, which also call for

the use of mechanical devices and expanders which have been commercially available for many years.

Cloth in rope form on its way to opening and drying should pass through a distance of at least 50 feet (or more) before it hits the scutchers — preferably it should take a straight course. A smaller amount of tension on the cloth is preferred to an excessive amount as this gives the beaters (which can be speeded up if necessary) and the scroll rollers a better opportunity to spread out the cloth.

Detwisters, as they are called, can be used with success provided the cloth takes a more direct path from the storage bin to the dryer, and there is thus an opportunity for untwisting to take place closer to the piled cloth. The problem of twist in normal bleaching operations cannot be avoided and it is more serious on certain fabrics, particularly when they are saturated with water.

To remove curl from fabrics, a number of mechanical devices are available, quite similar in principle. (Some which have been developed for tricot fabrics, incidentally, are quite intricate.) One type of uncurling device, which has rather wide application in many wet processing operations is of simple design. It is shaped like a cone and has a continuous diagonal groove. Two of these cones are mounted at each side of the fabric in positions similar to the conventional cloth guiders. As the fabric edges pass through the uncurlers, they are spread out by the action of the diagonal grooves.

After passing through the uncurlers, the fabric enters the water mangle, where a rubber expander can be placed just at the mouth of the squeeze rolls. It should remove any remaining curling.

After the fabric leaves the water mangle, it may have a tendency to curl again. This is readily removed by conventional guiders and a pair of rubber expanders placed close to the first drying cylinder. From then on, the drying operation should not present any creasing problems. Creases which are formed on the drying cylinders are caused mostly by insufficient tension and improper alignment of the drying cylinders. In all wet-processing operations, the importance of good seams cannot be over emphasized in preventing doubled edges and creases.

Creases in Mercerizing. In mercerization, faultless processing depends first of all on good machine design, then on proper assembly and installation of the component units, which include caustic impregnation mangles, tenter frame, rinsing boxes, and possibly a dryer. Whatever devices are used to prevent creasing, by expansion of the cloth, they are secondary to sound design and construction of the range. And without adequate

Dirt penetration is less when sheep wear coats, tests show

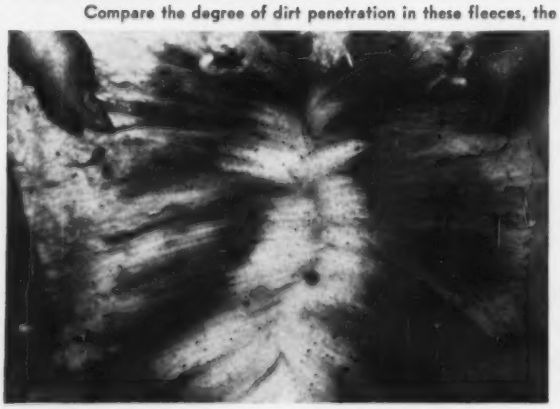
■ WOOL textile manufacturers may find interesting the following conclusions from a recently completed experiment in which sheep wore coats to protect the fleece:

1. Staple length was increased from 12 to 27 per cent in one test during 5½- to 6-month period.

2. Grease fleece weight was reduced ½ to 2/3 lb.

3. Average clean-fleece weight of range fleeces increased from 0.08 to 0.50 lb in a group test of two clips, but the clean weight was reduced by 0.52 lb in fleeces selected at random in another trial conducted in a dif-

Compare the degree of dirt penetration in these fleeces, the left being that of an uncoated ewe and the right a coated one.



supervision and continual maintenance, which should include periodic inspection and overhauling, even the most soundly constructed range will soon create problems, of which creasing may be the first.

A rubber expander, when used alone in the caustic impregnation bath, is of limited value, causing the fabric to slide from side to side. The better type of expander is one of iron construction, similar in shape to the bowed rubber expander, but which has fine grooves in it, closely spaced, which "bite" into the slippery fabric and keep it on a straight course while stretching it. In general, if fabrics with a tendency to curl have been dried without creasing, they will run well on the mercerizing range.

It is taken for granted that a range—whether a mercerizing, dyeing, or scouring range—has been designed to process fabrics under controllable tension, an important prerequisite to the prevention of creasing. In fact, modern open-width ranges, used for scouring purposes particularly, feature tensionless operation with synchronized drives. This not only prevents undue stretching of the fabric but facilitates prevention and removal of creasing.

Often when streaks are encountered in dyeing, remercerization of the undyed portion of the lot will improve dyed appearance. But this does not hold true in all cases. Besides, if done on a large scale it would prove prohibitive in cost. Moreover, this is a corrective measure rather than a preventive one, which leaves the problem unsolved.

Perhaps for this reason some plants prefer to mercerize last. In actual practice this is not possible for all fabrics, which for one reason or another must be mercerized in the grey or in earlier processing stages.

Dyers and finishers sometimes lose sight of the fact that their operations, although different chemically, are in essence extensions of preparatory operations. These operations require the same precautions as are practiced in preparatory operations, and essentially the same type of devices to prevent creasing.

In summary, creasing can be more than the physical distortion of the doubled portion of the fabric. It can be accompanied by displacement of processing chemicals present in the fabric. The effect of this on dyeing can be significant, dependent on the chemical(s) present, or on the chemical nature of the residues carried over from prior processing.

For that matter, streaks of this type might not be caused by heavy squeezing, but by the softer creasing quite common in many operations such as drying. Streaks in these latter groups are more difficult to diagnose—they require a thorough knowledge of the finer points of processing.

ferent area and year.

4. Dirt penetration was reduced by 20 per cent, and the amount of dust in the fleece was reduced by 5 to 8 per cent in one trial; in a second test shrinkage was not affected materially.

5. Appearance and attractiveness of all wools were improved.

In a series of winter tests conducted by the University of Wyoming Agricultural Experiment Station, 435 sheep in six different flocks run under range and farm conditions were coated with nylon-, cotton-, and burlap-base fabrics for periods of two weeks to six months. Studies were made on fabric durability, on coat design, and on the effects of coating on wool and lamb production.

Fabrics from which the sheep coats were made were donated by Burlington (Wis.) Mills, United States Rubber Co., Mishawaka, Ind.; and Hohokus Bleacheries, Inc., Hohokus, N. J.

Wash-and-wear finishes to be discussed at AATCC convention

■ ALL WET processing plant management and operating executives, whether or not they are members of the American Association of Textile Chemists & Colorists, are invited to attend the 1959 AATCC national convention to be held at Washington, D. C., October 7-10, according to an announcement by the southern sections sponsoring this meeting.

Selection of the Nation's Capital offers opportunity for members and guests to combine the technical functions of the meeting with visits to famous monuments, historical spots, etc., it was pointed out. Because of the convenient location between the Southern, Middle Atlantic, and New England textile areas, a record attendance is expected.

Technical Program and Exhibit. Wash-and-wear finishes, dyeing and finishing of blends, and new dyeing and finishing equipment are the subjects to be considered at the technical sessions to be held on Thursday morning and afternoon and Friday morning. Intersectional contest papers will be presented Friday afternoon.

Exhibits of dyestuffs, chemicals, and equipment for wet processing will open at 4:00 P.M. on Wednesday.

Hotel Accommodations. The selection of two Washington hotels—the Sheraton Park and the Shoreham—within walking distance of each other assures adequate facilities for the members and guests. Application blanks for hotel reservations will be supplied by the convention committee. Those planning to attend the convention are urged to hold hotel reservation requests until they receive the forms.

Entertainment. Highlights of the planned entertainment program include a show following the banquet on Friday evening, a golf tournament and two football games over the weekend, and tours of the city.

Wives are urged to accompany their husbands. A ladies' program committee has been organized to assist in getting acquainted and to arrange tours and other activities of interest.

For details, write National Convention Committee, AATCC, Attention: Dr. Leonard Smith, National Cotton Council of America, 1200 18th St., N. W., Washington 6, D. C.

(Wash-and-Wear will also be featured in T. I. for October.—Eds.)

This modern vacuum stripping installation in a southern woolen mill includes under-the-floor piping system for central-point collection.

This traversing vacuum stripper, shown here stripping the doffer, lets the card tender handle other jobs while card is being stripped.

How they strip wool cards

TI survey reveals current practices among southern woolen mills

Staff prepared Exclusive

THE STRIPPING cycle on woolen cards varies from mill to mill because of differences in stock processed and other details. A recent survey revealed that most woolen mills strip by vacuum because it is easier, and less time is required for the operation.

Some mills still strip manually; these are predominantly the smaller mills, however. The type of card clothing used controls to some extent the stripping practices employed.

Conventional card clothing is stripped every 24 hours in many instances. Special clothing usually requires less stripping, and most mills extend the interval to 48 hours. The special clothing does not permit short fibers and foreign matter to build up so quickly. The special shape of the wire, shorter exposed length, absence of exposed knee, and special foundation construction are features preventing quick accumulation of short fibers in the clothing.

Stripping is done for several reasons; finisher web (or roving) weights begin to vary, and the web deteriorates on heavier counts in proportion to the material impacted or accumulated in the wire on the clothing. Finer counts require finer wire and closer attention than heavy counts.

Stripping must be done upon changing lots of stock or colors of stock; otherwise, quality suffers considerably.

The time required to remove short fibers imbedded in the clothing varies according to the equipment used and the stock processed. At one mill, on a two-cylinder set running carpet stock, stripping requires 30-45 minutes, depending upon whether additional tasks are performed (such as brushing card sides and cleaning covers). On three-cylinder cards running finer work, stripping may require an hour, including detail cleaning.

Stripping is done largely for "quality" reasons. Like card grinding, it is usually done before it is actually needed in order to keep quality of work at an acceptable level. Once every 24 hours is the most common frequency on coarse counts; once every 48 hours is common frequency on finer counts, and stripping is usually done on the first shift (day shift).

SOME TYPICAL comments on woolen card stripping from experienced mill men follow:

Card wire fills up with short wool fibers and knotty yarn results if we don't strip. Also, we strip for color changes.

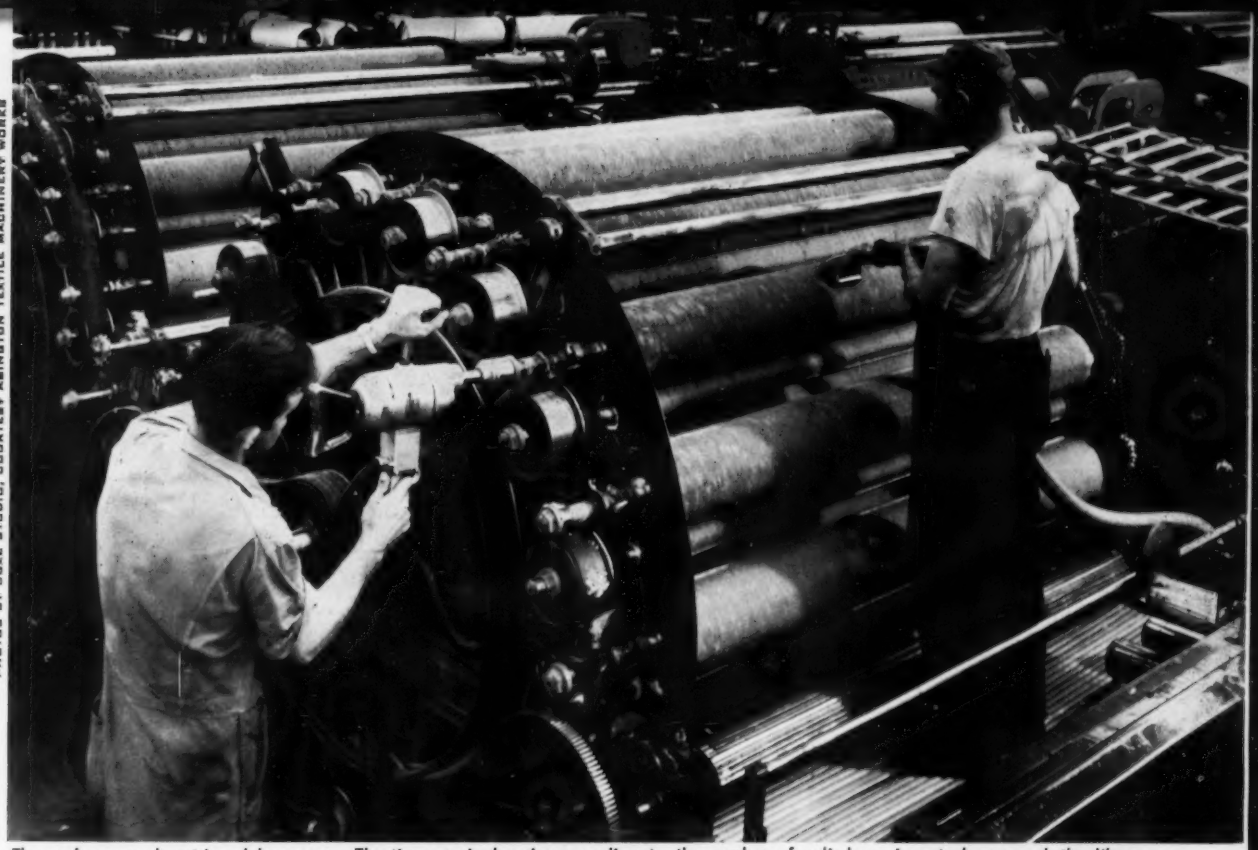
Waste and coarse foreign matter must be cleaned from the clothing to avoid making rough yarn.

On short stock, clothing fills up quickly and must be stripped to keep quality up. Also, color changes and grinding necessitate stripping.

We strip by vacuum twice a week as a rule; however, our equipment is the very best available, and we use good quality stock.

Every 48 hours, we strip by vacuum. This frequency is an average. Some of our cards are on 2½-run wool, and we strip these once every 24 hours. Other

PHOTOS BY COXE STUDIO, COURTESY ARKWRIGHT TEXTILE MACHINERY WORKS



The workers are also stripped by vacuum. The time required varies according to the number of cylinders, size, stock run, and the like.

cards on 5½-run wool-nylon stock are stripped once every 96 hours.

On white stock up to 5 run, we strip the first cylinder once every five days; second cylinder, once every seven days; third cylinder, once every ten to twelve days. This schedule varies, and stripping may be done more frequently, depending on stock changes and color changes.

Our two-cylinder, 84" cards require 30-45 minutes to strip, and the card tender performs the operation.

On our three-cylinder cards, it takes about an hour and 15 minutes to strip.

We have no special crew to strip. One man is assisted by the finisher tender, and on 60 x 72, three-cylinder cards one hour and 30 minutes to one hour and 45 minutes is required to strip. Hoods are also cleaned while stripping.

We use vacuum stripping with under-floor connections.

We use vacuum stripping with overhead connections.

We use vacuum stripping with under-floor connections.

Our clothing has conventional chisel-point wire.

We have conventional wire.

Our cards have standard chisel-point wire.

On an average basis, we reclothe every 6-7 years.

We reclothe cards about every 7-8 years.

Reclothing is done as needed; about 3-8 years.

Burr crushers are used on cards in most instances.

Waste receivers and vacuum pump make collection and handling of waste simple, efficient.

What spinning draft does

by Jack Simpson
and Charles L. Sens
Southern Regional Research Laboratory[2]

Exclusive

Part 2—Double Rovings[1]

THE EFFECT of spinning draft on the properties of yarns spun on the Whitin[3] Casablanca double apron and the Saco-Lowell Shaw single apron systems from single rovings of short, medium and long staple cottons were described in Part 1 (5)[4]. The present study, Part 2, deals with the same systems and cottons while spinning from double rovings.

The advantages and disadvantages of spinning from double rovings have been a source of disagreement in the textile industry. While it is well known that spinning from double roving tends to reduce the long term variation of yarns (i.e., variation between lengths greater than approximately one yard), opinion has been divided in regard to yarn strength and short term variation.

Loveless (4) found that yarns from single rovings were stronger than those from double rovings when the drafts using the single rovings were one-half those using double rovings. Charnley (2) found that yarns spun from double rovings are stronger than those spun from single rovings using the same draft for each. Grishen (3) found that with the optimum draft for each, yarns from single rovings were more uniform than yarns from double rovings.

Examination of these studies seems to indicate that the preference of spinning from either single or double rovings will depend to a large extent on the spinning draft to be employed. With that thought in mind, the choice was made to study the effect of spinning draft using double rovings of short, medium, and long staple cotton over the complete range of drafts as was done for the single rovings in Part 1.

MATERIALS AND METHODS

The cottons used for this study were the medium staple Deltapine 15, the long staple Wilds 13, and the short staple unknown variety, all of which were used in the previous study. The fiber properties of these three cottons were listed in Part 1. The methods for testing the uniformity of the rovings, the uniformity and strength of the yarns, and the processing equipment employed were described in Part 1.

The spinning drafting systems employed were the Whitin Casablanca long draft (54 mm width aprons, type DD-7 cradle), and the Saco-Lowell SS-2 Shaw (single apron). It is estimated by an authoritative source that these systems comprised 70 per cent of the spindles in use in this country in 1958.

All yarns were spun using the twist multipliers for maximum strength as calculated by Campbell's formula (1).

Processing Procedure. The rovings, 0.50 through 6.0 hank (1181 through 98.4 tex), were processed in the same manner as those of Part 1. Finer rovings, 8.0, 10.0, and 12.0 hank (73.8, 59, and 45.2 tex) were added to obtain the low drafts when spinning from double roving, thus giving yarn strength vs spinning draft curves over ranges of draft comparable to those obtained from single rovings.

The yarns were spun from double rovings by feeding both rovings through the same trumpet. Thus the rovings were together when being drafted.

Since spinning draft was studied with single rovings of the Wilds 13 and Deltapine 15 cottons before deciding to include double rovings in the study, a large percentage of the available poundage of these cottons was used for that study. For this reason it was necessary to spin these cottons with a wide range of drafts from only double rovings. However, to compare these yarns from double rovings, with those from single rovings, yarns were spun from single rovings using the optimum drafts selected from the single roving study (5) immediately after making the double roving tests.

On the other hand, with the short staple cotton, yarns were first spun from single rovings over a wide range of drafts and immediately following, the rovings were doubled and the yarns were again spun with the same range of drafts. This method gave a complete yarn strength vs spinning draft curve for both single and double rovings, with the yarns being spun from each with as little time lapse as possible. To the authors' knowledge this is the first time such a test has been reported in the literature.

RESULTS AND DISCUSSION

Figure 1 shows the effect of spinning draft on the skein count-strength product (cotton yarn number x skein breaking strength) of yarns spun on the Whitin Casablanca double apron system from double rovings of the Deltapine 15, 1 1/16" cotton.

It is seen from this figure that for the drafts selected the 20/1, 40/1, and 60/1 (29.5, 14.8, and 9.8 tex) yarns decreased in strength

[1]Part 1—Single Rovings appeared in TEXTILE INDUSTRIES for June, 1959, pages 108-114.

[2]One of the laboratories of the Southern Utilization Research and Development Division, U. S. Department of Agriculture, Agricultural Research Service, New Orleans, La.

[3]Use of a company or trade name by the Department does not imply approval or recommendation of the product to the exclusion of others which may also be suitable.

[4]Numbers in parentheses are references at the end of this article.

to yarn

Use these findings to spin better double - roving yarns

► Whether to spin from single or from double roving depends on the spinning draft required for each:

► Yarns spun from single rovings are usually stronger than the same count yarns spun from double rovings, when the draft using the single rovings is half that used with double rovings.

► At the spinning draft which gives the highest yarn strength for each, yarns spun from double rovings are usually stronger.

► The effect of spinning draft on yarns spun from double rovings is more critical with medium and long staple cottons than with short staples.

► In these tests, better fiber control resulted with the double apron than the single apron system, in spinning short staple cotton from double rovings.

with increase in draft. Tests for significance of differences showed that, at approximately the same drafts, the strength of the 20/1 (29.5 tex) and 40/1 (14.8 tex) yarns from the double rovings were stronger than those from single rovings. The difference for the 60/1 (9.8 tex) yarns was not significant.

Uster uniformity results showed that at approximately the same draft the 20/1 (29.5 tex) and 60/1 (9.8 tex) yarns from double rovings were more uniform than those from single rovings. For the 40/1 (14.5 tex) yarns there were no differences in uniformity.

The effect of spinning draft on the skein count-strength product of yarns spun from double rovings of the Wilds 1¼" cotton on the Whitin double apron system is seen in *Figure 2*. It should be pointed out that the drafts used were limited by two factors; namely the hank of the rovings that had been suitably developed for use in the study and the mechanical limits of the drafting systems.

It can be seen from this figure that there is a decrease in strength with increased draft for all three yarns. The results are slightly different from those of yarns spun from single rovings, Part 1, where for the 40/1 (15.8 tex) and 60/1 (9.8 tex) yarns there was an increase followed by a decrease in strength as the draft increased.

Significance tests between the strengths of yarns spun from double rovings at the draft yielding the highest strength and those from single rovings revealed a difference only for the 40/1 (14.8 tex) yarn and that was in favor of the yarn from double roving. Uster uniformity results showed that at the same drafts the 20/1, 40/1, and 60/1 (29.5, 14.8, and 9.8 tex) yarns from double rovings were more uniform than the same yarns from single rovings.

The effect of spinning draft on the skein count-strength product of yarns spun from double roving of the Deltapine 15, 1 1/16" cottons on the Saco-Lowell Shaw single apron system can be seen in *Figure 3*.

The results for the yarns from double rovings on this drafting system are very similar to those obtained with single rovings in Part 1. The strength of the 20/1 (29.5 tex) yarn decreased with an increase in draft while the 40/1 and 60/1 (14.8 and 9.8 tex) yarns increased slightly in strength and then decreased.

A significant difference was not found between the strength of the 20/1 (29.5 tex) yarns from double and single rovings as was observed from the data shown in *Figure 1*. The 40/1 yarn (14.8 tex) spun at

Figure 1. The effect of spinning draft on the skein count-strength product of yarns on the Whitin Casablanca double apron system, from double rovings of Deltapine 15, 1 1/16" cotton.

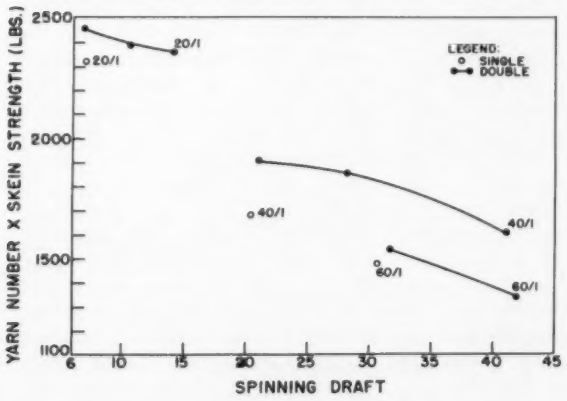


Figure 2. The effect of spinning draft on the skein count-strength product of yarns spun from double roving of Wilds 13, 1¼" cotton on the Whitin Casablanca double apron system.

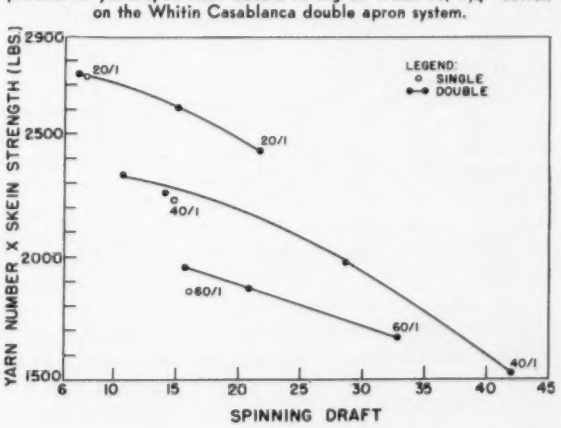


Figure 3. The effect of spinning draft on the skein count-strength product of yarns spun from double rovings of Deltapine 15, 1 1/16" cotton on the Saco-Lowell Shaw single apron system.

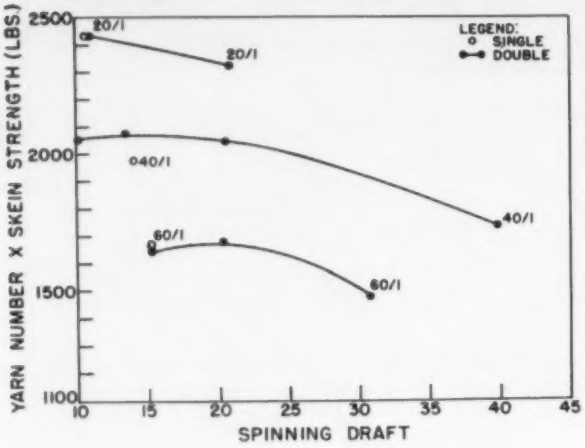
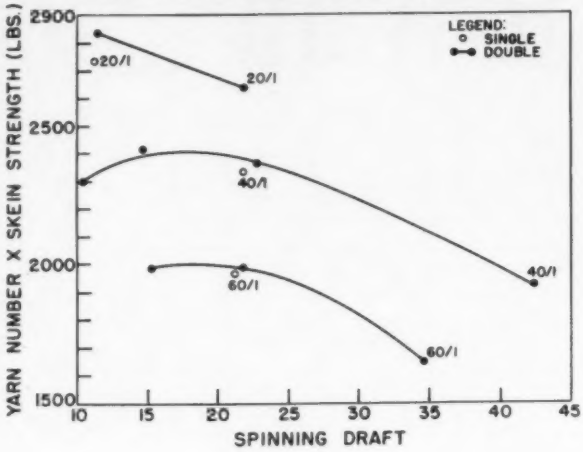


Figure 4. The effect of spinning draft on the skein count-strength product of yarns spun from double rovings of Wilds 13, 1¼" cotton on the Saco-Lowell Shaw single apron system.



a draft of approximately 15 from double roving was significantly stronger than that spun from the single roving. Uster uniformity results revealed that the 20/1 and 60/1 (29.5 and 9.8 tex) yarns at drafts of approximately 10 and 15, respectively, were more uniform when spun from double rovings than from single rovings.

Figure 4 shows the effect of spinning draft on the skein count-strength product of yarns spun from double rovings of Wilds 13, 1¼" cotton on the Saco-Lowell Shaw single apron system.

As was true for the Deltapine cotton the yarn strength vs spinning draft curves from double rovings of this system are very similar to those from single rovings shown in Part 1. Significance tests showed that the 20/1 and 40/1 (29.5 and 14.8 tex) yarns spun from double rovings at drafts of 11.5 and 14.8, respectively, were stronger than the yarns from single rovings at optimum draft.

Uster test results revealed that the uniformity of the 20/1, 40/1, and 60/1 (29.5, 14.8, and 9.8 tex) yarns spun from double rovings at drafts of 11.5, 14.8, and 21.9, respectively, was better than that of the same yarns spun from single rovings.

The effect of spinning draft on the skein count-strength product of yarns spun from single and double rovings of the short staple 15/16" cotton on the Whitin Casablanca double apron system is seen in *Figure 5*. As previously mentioned, the yarns were spun from single rovings over the same range of drafts as, and immediately prior to, spinning from the double rovings.

Except for 8, 10, and 12 hank (73.8, 59.0, and 49.2 tex) rovings needed to permit the use of the lower drafts for the double roving tests, the same rovings were used for the double as for the single roving tests. Since the yarns were spun at practically the same time and using the same rovings, the strength levels of the two methods of spinning can be compared.

It is not usually recommended to spin a 60/1 (9.8 tex) yarn from 15/16" staple length cotton. This was done in this instance to obtain a more complete picture of the yarn strength vs spinning draft curves.

It can be seen from the figure that for the 20/1 (29.5 tex) yarn there is little to choose between the two methods of spinning provided the same drafts are used for both. However, it should be pointed out that spinning from double rovings at twice the draft used for spinning from single rovings will result in a weaker yarn.

For the 40/1 (14.8 tex) yarn, the double roving curve is at a significantly higher level at low drafts than the single roving curve. However, the single roving tends to peak at a higher draft than the double roving curve. The same indications are slightly evident for the curve of 60/1 (9.8 tex) yarns. This figure brings out the importance of having complete yarn strength vs spinning draft curves before making a selection whether to spin from single or double rovings.

Figure 6 shows the effect of spinning draft upon the skein count-strength product of yarn spun from single and double rovings of the short staple cotton on the Saco-Lowell Shaw single apron system.

Although at a draft of approximately 14 and 20.8 the 20/1 (29.5 tex) yarns from double rovings are slightly stronger than those from single, generally at the same draft there is little choice as to whether to spin from single or double rovings. The curves on this graph are quite similar to those in *Figure 5*.

There are indications again that the curves for the 40/1 and 60/1 (14.8 and 9.8 tex) yarn peak at higher drafts for yarns from single than those from double rovings. Due to excessive end breakage, the 40/1 and 60/1 (14.8 and 9.8 tex) yarns could not be spun at a draft above approximately 27 on this system.

Figure 7 shows the effect of spinning draft on the uniformity of yarns spun from single and double rovings of the unknown variety 15/16" cotton on the Whitin Casablanca double apron system. It is evident from this

Figure 5. The effect of spinning draft with the Whitin Casablanca double apron system on the skein count-strength product of yarns spun from single and double rovings of the unknown 15/16" cotton.

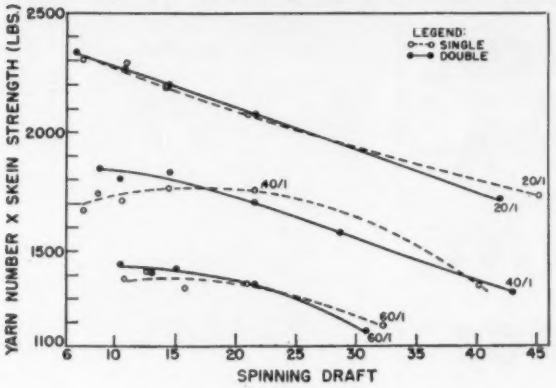


Figure 6. The effect of spinning draft on the skein count-strength product of yarns spun on the Saco-Lowell Shaw single apron system from single and double rovings of the short-staple 15/16" cotton.

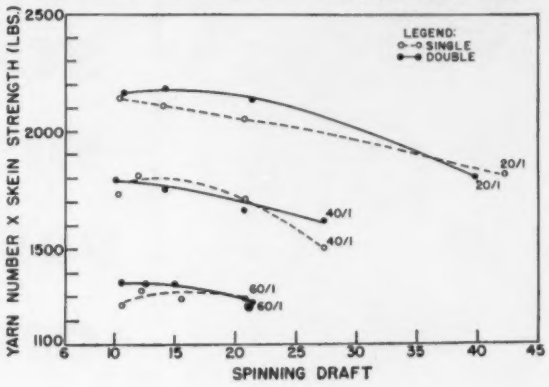


Figure 7. The effect of spinning draft on the uniformity of yarns on the Whitin Casablanca double apron system from single and double rovings of the unknown 15/16" cotton.

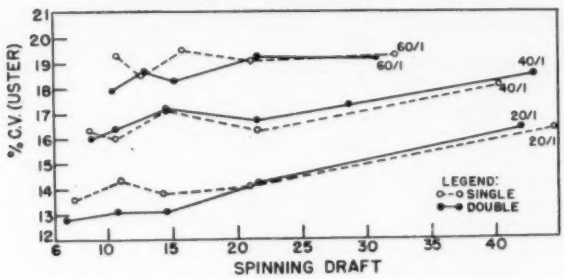


Figure 8. The effect of spinning draft on the uniformity of yarns spun from single and double rovings of the unknown 15/16" cotton on the Saco-Lowell Shaw single apron system.

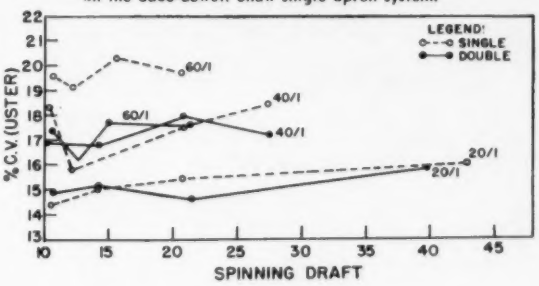


figure that there is very little difference in short-term variation when spinning from either single or double rovings.

Figure 8 shows that the same is true for the 20/1 and 40/1 (29.5 and 14.8 tex) yarns spun from this cotton on the Saco-Lowell Shaw single apron system. However, the 60/1 (9.8 tex) yarns from the double rovings are significantly more uniform than those from the single rovings.

CONCLUSIONS

This study showed that the advantages of spinning from single or double rovings depend on the spinning draft required for each. In nearly all cases it was found that yarns spun from single rovings were stronger than those from double rovings, when the draft using the single rovings was one-half that when using the double rovings. However, at the spinning draft which gave the highest yarn strength for each, the yarns from the double rovings were stronger in all cases when a significant difference existed.

In general, the count-strength product vs spinning-draft curves for the yarns spun from double rovings are similar to those spun from single rovings. A difference noted is that the curves for the medium and fine yarns (40/1, 60/1) (14.8 and 9.8 tex) of the short staple cotton from single rovings tend to peak at a higher draft than those from double rovings.

The highest yarn strength for the coarse yarns from double rovings were obtained at the lower limits of the particular drafting systems employed. The authors are well aware that for reasons of economy such low drafts might not be acceptable to industry.

As was the case with yarns from single rovings (Part 1) the effect of spinning draft from double rovings was more critical with the medium and long than with the short staple cotton. When spinning from short staple cotton, better fiber control resulted with the double than the single apron system.

It is believed that this study will be of particular value to those mills employing the systems studied and also will be of benefit to those mills who have the new Superdraft systems in setting up experimental studies on the effect of draft.

ACKNOWLEDGMENT

The authors wish to express their appreciation to Wilbur M. McCherry and Shirley M. Reinhardt for making the yarn strength and uniformity tests and to fellow members of the Cotton Mechanical Laboratory for processing the sliver, roving, and yarns used in this investigation. Recognition is also due H. W. Little, statistician, Cotton Mechanical Laboratory, for his advice and aid in evaluating the experimental data.

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Figure 1A. Iodine test shows that cationic starch is exhausted from bath by the yarn.

STARCH WITH A POSITIVE CHARGE

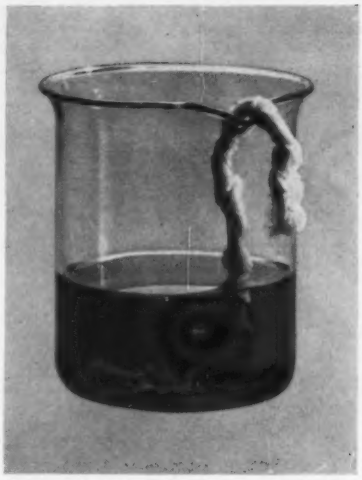


Figure 1B. Iodine test shows clearly that most of the corn starch remains in solution.

Cationic starch, with a positive charge, is attracted to negatively charged fibers and has shown promise for sizing wool, Dacron, glass, and other man-made fibers

by Herbert C. Olsen

Supervisor, Textile Service
National Starch & Chemical Corp.

Exclusive

IN THE last decade of starch research, most starch suppliers have placed increasing emphasis on starch derivatives. This represents a departure from conventional cleavage products as obtained in the case of "thin-boiling" starches, British gums, and dextrines.

With the technique of derivatization, high polymer chemists have been able to insert various organic groupings such as carboxyl, acetate, hydroxyethyl, sulfonic, and so forth into the starch molecule itself. Important properties of direct use to the consumer resulted, and such starch derivatives have found a ready market.

Heretofore, all these derivatives were anionic or nonionic (carrying a negative or neutral charge) and it was a natural goal for our starch chemists to attempt to develop a cationic derivative carrying a positive charge. They had good and important reasons for designing such a product because they theorized that such a starch would actually show affinity for fiber surfaces bearing an opposite negative charge. They also thought that these groupings would open up the starch molecule to water so that the gelatinization temperature could be lowered appreciably.

They expected that these groups would spatially interfere with retrogradation (the congealing caused by cooling) and thereby produce a stable starch solution with improved working properties. They also expected that its films would have slightly higher moisture regain properties, thereby making possible weaving at lower and more comfortable humidities.

They hoped that the addition of cationic solubilizing groups to corn starch would reduce its tendency to settle out in very dilute solutions. When they finally succeeded in developing the first commercial cationic starch they found their efforts well rewarded. They had actually e n g i n e e r e d needed changes into the starch molecule itself!

These features are now discussed in greater detail.

Cationic Affinity. The experiment pictured in *Figure 1* shows that if textile yarns (such as Dacron, wool, glass, etc.) are immersed in a cooked dispersion of cationic starch, it is attracted to the fiber and can be nearly exhausted from very dilute solutions. Untreated starch does not show this reaction.

The test is carried out by immersing separately one gram strands of yarn (in the example shown, Dacron-cotton) in 100-ml solutions of cationic and corn starches at 0.005% concentrations. Boil for a few minutes, cool, and allow the yarns to drain as shown. Drops of iodine are added to the strands and their respective solutions.

The presence of starch is indicated by staining with iodine solution, which imparts a characteristic blue color. The cationic starch solution fails to develop color; the yarn suspended in it turns deep blue, proving the starch has been drawn out of solution and onto the yarn.

On the other hand, when the iodine test is applied to the corn starch solution, the yarn stains very slightly, and the solution quite heavily, proving that most of the corn starch has remained in solution without exhibiting any specific affinity for the yarn.

The implication of such an experiment is clear when it is understood that efficient warp sizing is dependent to a large extent upon

the bond between the size film and the fiber surface. It is logical to expect stronger bonds because of mutual attraction between positively charged starch and negative fiber surfaces. Such additional adhesion would naturally lead to higher weaving efficiency and less shedding.

Effect on Gelatinization Temperature and Congealing. The cooking-cooling graph in *Figure 2* shows that our chemists achieved their goal in markedly lowering the gelatinization temperature as well as reducing considerably the tendency of cooked solutions to congeal and lump. Derivatized starch is compared to the underivatized grade having equivalent viscosity.

Figure 2 clearly shows that derivatization has caused the cationic starch to swell much sooner during the cooking period. The swelling point is shown by the very rapid increase in viscosity of the starch slurry being heated. The gelatinization temperature is lowered by at least 150 F. The value of the lower swelling temperature is that lengthy cooking at high temperature is no longer required to obtain full gelatinization of starch granules.

The second desirable effect is that the cationic solution remains more fluid at lower temperatures. *Figure 2* shows the sharp viscosity increase during the cooling period for the underivatized starch. It is important to avoid such viscosity increases. Solutions which are more fluid at lower temperatures can be applied at such temperatures without the viscosity breakdown common with high temperatures. Low temperature sizes can also be applied with little damage to delicate or commercially dyed yarns.

Even at high temperatures, noncongealing sizes show more uniform viscosity during moderate temperature fluctuations; less danger of lumping, clogging of size lines, or skinning in the size box; and finally, less change in concentration due to size dilution caused by the condensation of steam used to keep the size box at high temperatures.

Effect of Moisture on Cationic Films. The somewhat higher moisture pick-up of dried films prepared from cationic corn starch compared to those from underivatized corn starch at various humidity levels is shown in *Figure 3*. It could be theorized that the chemically branched configuration of the cationic groupings, as well as its hydrophilic nature, causes it to pick up slightly more moisture so that the film is more pliable at lower humidities.

It is interesting that this effect can be decreased by the conversion of heavy-cooking cationic starches into their thinner fluidities. Possibly the more linear and closer and tighter packing of the starch molecules (which have been shortened by conversion) does not admit water as completely.

A similar comparison can be made between corn starch and its dextrine. The smaller molecular weight dextrine picks up less water. In the latter case, however, dextrines do not have adequate film strength for spun sizing.

There seems to be renewed interest in weaving at lower humidities. In some cases, humidity with all its attendant disadvantages has been overdone and the pendulum is swinging back to lower humidity again.

Figure 3 also shows that moisture regain changes at an increasingly rapid rate with humidities in excess of 80%, rendering adequate control considerably more difficult. Since the moisture regain of such derivatives can be higher than that of the underivatized parent starch, it is not necessary to overhumidify the weave room in order to plasticize brittle starch films.

Effect on Dispersion Solubility. It is well known that raw corn starch forms only an imperfect colloidal solution on cooking. The

Figure 2. Cooking-cooling comparison shows that cationic starch swells much sooner than does corn starch during the cooking period.

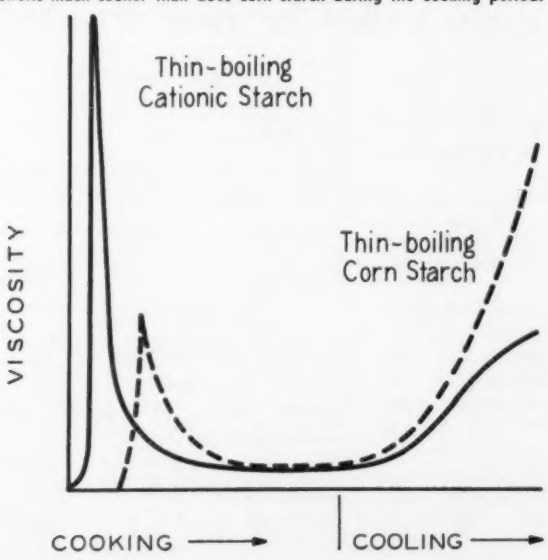
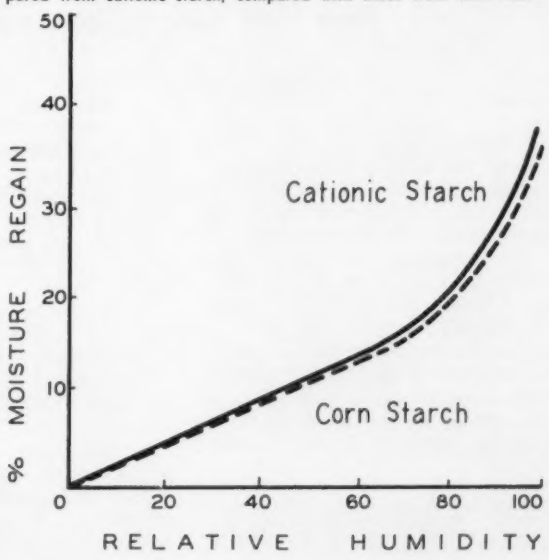


Figure 3. The slightly higher moisture pick-up of dried films prepared from cationic starch, compared with those from corn starch.



fact that it is not a homogeneous solution is easily shown by cooking 0.5% corn starch in boiling water and allowing to stand. An appreciable sediment or sludge soon forms. That the cationic starch is virtually free of this defect is shown in *Figure 4*.

In addition, its solution is not only clearer, but so are the films made from it. The reduced tendency to settle out from dilute solutions is partly due to the solubilizing effect of the cationic groups. This difference is of practical importance wherever dilute solutions are used, as in resin finishing formulations involving small amounts of starch as hand-builders. Non-settling starches assure uniformity of finish, improved penetration, and become a more integral part of the fabric.

Figure 4. Cationic starch at left does not form sludge or sediment on standing, as does the conventional corn starch on the right.

Application. Cationic starches have shown promise for sizing wool, Dacron, glass, and other man-made fibers. Due to better weaving efficiency, their somewhat higher cost can often be off-set by lower size pick-up.

In spite of greater attraction to textile fibers, they are normally readily removed by the usual desizing and scouring processes. This is due to the fact that their films rehydrate somewhat more readily and become softened for the enzymatic or scouring process. Being cationic, they may have an attraction for some tints not possessed by ordinary starch.

These patented cationic starches are available in a variety of fluidities to suit many warp-size requirements as to viscosity and pick-up. They are also compatible with the usual warp-size compounds and have also been employed successfully with synthetic binders.

Although still in their infancy, cationic starches have gained growing recognition in the textile field as well as many other industries.

326,804 looms in U. S. cotton mills at end of 1958

■ THERE were 326,804 looms in U. S. cotton mills on December 31, 1958, according to a recent Bureau of the Census report. This total is 20,275 less than the number reported in 1957.

Only 584 of the 326,804 looms were woolen and worsted type. The remainder were cotton and man-made fiber looms as follows:

Plain looms (single shuttle), 272,444; dobby looms (single shuttle), 25,438; box looms, 21,305; and pile and Jacquard looms, 7,033.

How Much They Were Run. Operation of the looms in 1958 was reported to be 1,847,715,000 loom hours, compared to 1,907,945,000 in the preceding year.

Yarn Consumed. Of the 2,899,113,000 lb of yarn used in the cotton mills last year, 2,773,908,000 lb were cotton, 60,688,000 lb rayon and acetate, 11,731,000 nylon filament, and 52,786,000 lb of other fibers including blends and mixtures.

Combed cotton yarn used in 1958 amounted to 381,546,000 lb, the report indicated.

New high temperature vat dyeing method for yarns developed

Extract*

■ A NEW high temperature method reduces vat dyes with a minimum quantity of sodium hydrosulfite and keeps them in reduction with a reducing sugar, dextrose (glucose).

This procedure has proven successful in overcoming certain package dyeing troubles which hitherto had offered a constant problem to mill dyehouses. It is now a routine dyeing method in those dyehouses which have tried this high temperature dyeing method as a means of securing improved levelness, better penetration and cross-over elimination, and which previously encountered extreme difficulty in making satisfactory dyeings on certain yarn constructions.

Usually a temperature of 195 F produces satisfactory results. Occasionally, a temperature of 225 F or 250 F is used to produce superior results.

By the use of a minimum concentration of hydrosulfite for reduction followed by the addition of a sufficient amount of dextrose to the bath, to maintain reduction, the leuco potential of the bath is kept below the danger point, even for very sensitive dyes such as Vat Blue 6.

Illustrative procedures for this method are presented in the next column.

Vat Blue Shades

Run onto the dry packages, a dispersion of Calcoloid Blue BLC.
Single Paste 10% (*o.w.f.*) 1.0% (*o.w.f.*)
Circulate 5 minutes at 195 F.
Add:
Dextrose 0.5 oz/gal 0.5 oz/gal
Caustic Soda 1.0 oz/gal 0.5 oz/gal
Circulate 5 minutes at 195 F.
Add:
Hydrosulfite 0.2 oz/gal 0.1 oz/gal
Circulate 30 minutes at 195 F.
Add:
Hydrosulfite 0.1 oz/gal 0.1 oz/gal
Circulate 5 minutes at 195 F.
Rinse, oxidize and soap as usual.

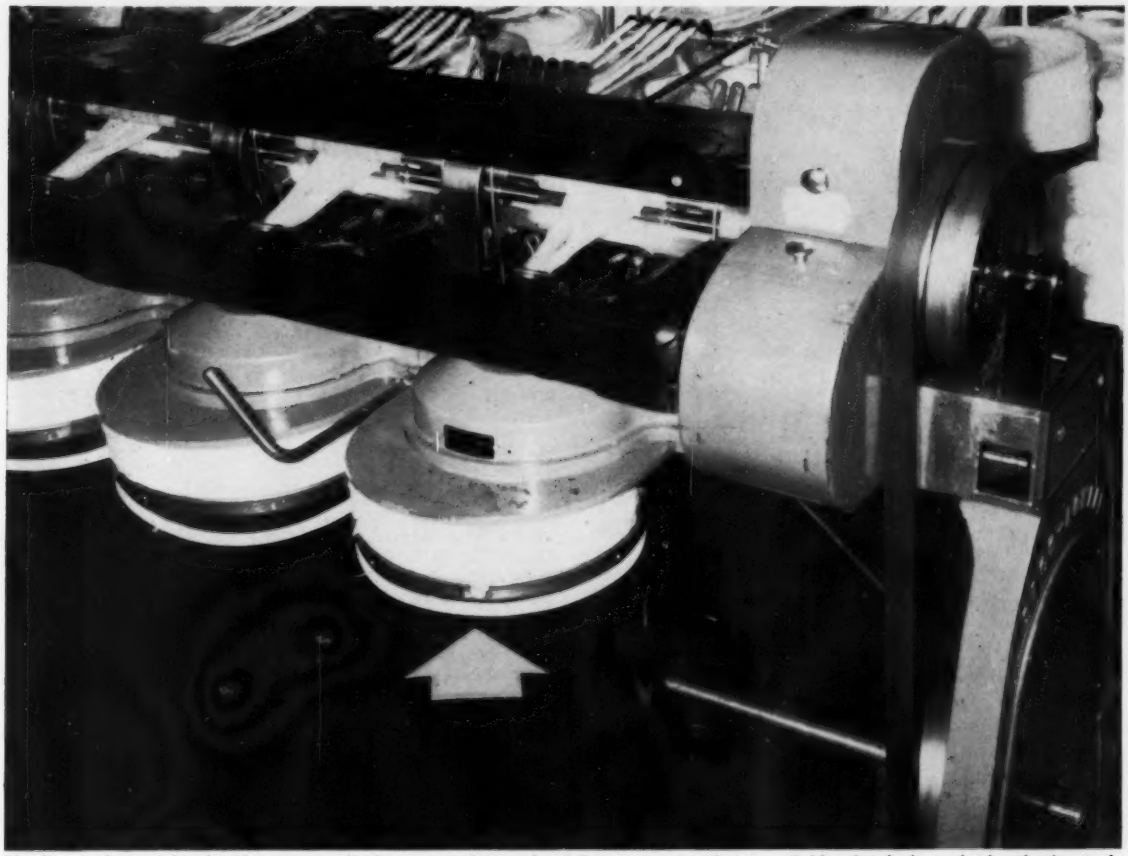
Vat Black Shades

Run onto the dry packages, a dispersion of Calcoloid Direct Black PBC Double Paste 30% (*o.w.f.*)
Circulate 5 minutes at 195 F.
Add:
Dextrose ..... 0.75 oz/gal
Caustic Soda ..... 1.50 oz/gal
Circulate 5 minutes at 195 F.
Add:
Hydrosulfite ..... 0.5 oz/gal
Circulate 15 minutes at 225 F.
Circulate, cooling to 180 F.
Add:
Hydrosulfite ..... 0.2 oz/gal
Circulate 5 minutes at 180 F.
Rinse, oxidize, and soap as usual.

*From an article entitled "High Temperature Vat Dyeing" which appeared in a recent issue of "Dyelines," a publication of American Cyanamid Co.

They blend at breaker drawing

whether the yarn to be spun is Dacron and cotton or straight Dacron



Blending is done at breaker drawing, usually by running four ends of Dacron to two of cotton. Rubber bands (arrow) identify the stock.

Staff prepared Exclusive

ONE prominent North Carolina mill makes 100 per cent Dacron yarn of 1½ denier, 1½" staple and confines blending, leveling, and evening of the Dacron largely to breaker drawing.

Also, Dacron is blended with cotton by running four ends of Dacron and two ends of cotton at drawing—1 7/16" cotton is used in the blend to make yarns for weaving. Six ends up on finisher drawing make good work on three-over-four drawing.

Opening procedure calls for feeding three bales of Dacron into two hoppers arranged in tandem. An apron carries the stock to the breaker picker.

Two-process picking is used with breaker and finisher sections run separately. Kirschner beaters are used in both pickers, and the Dacron gets no conditioning before processing. The finisher picker is fed with four laps up.

This mill put fancy rolls on cards to assure cylinder transferring fibers properly to the doffer. Solid licker-in screens are used to reduce fly.

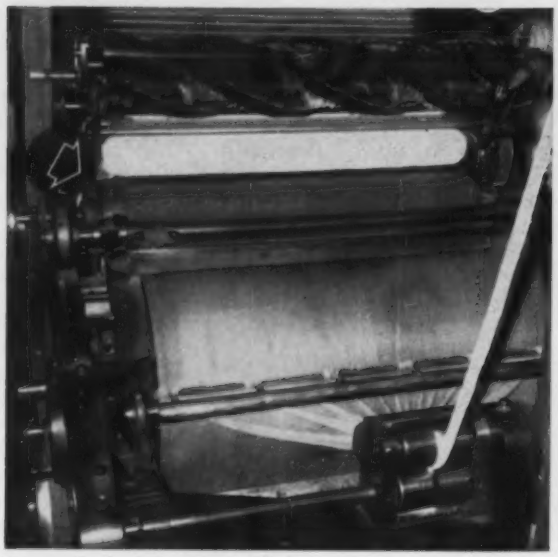
Fifty per cent relative humidity is maintained from carding through spinning, and an air change system is used with no refrigeration. Management tries to keep humidity under 55%, as too much humidity gives trouble with lapping up everywhere.

The mill runs some 100 per cent cotton, and the problem of keeping the stocks separate is handled by marking cans and boxes with color bands.

Fly migration hasn't been a problem yet—the stock is not tinted for identification.

Static sometimes gives trouble at cards and drawing, and this trouble is counteracted by putting on extra employees to keep ends up.

In this connection, a plant official stated that refrigerated air



Fancy rolls (arrow) were installed to assure proper stock transfer from cylinder to doffer. Solid licker-in screens reduce fly.

A cone of 58s knitting yarn made of 50 per cent cotton and 50 per cent Dacron is checked for quality. Note supply package.

conditioning would be the biggest single improvement that his mill could make to improve product quality, working conditions, employee morale, and good housekeeping in terms of machine cleaning.

Good and sustained customer acceptance and product demand attest to the results achieved with processing procedures used in this mill, according to plant officials.

Good news for cotton mills—new lint quality preservation program

■ KEEPING moisture content within proper limits during harvesting and ginning is the heart of a cotton quality preservation program charted at a recent three-day meeting in Stoneville, Miss. Details were announced by the National Cotton Council, sponsor of the workshop.

Some 50 research and educational leaders met with cotton industry representatives to develop the general content and plans for a program to preserve lint quality. Designed to reach each farmer and ginner, the purpose of the educational program is to acquaint them with the seriousness of the quality situation, and the known harvesting and ginning practices which will result in highest bale values for producers and maximum quality for cotton manufacturers.

The workshop revised and updated a cotton quality preservation program which has been in operation for a number of years. Need for the revision was pointed up by increasing evidence that improper gin drying and cleaning operations were damaging quality and making cotton a much more costly fiber to process in the mills.

After a thorough review of all pertinent research, including recent ginning-spinning tests, the group concluded that moisture content is the most important single factor influencing cotton quality in the harvesting-ginning process.

The group also agreed that a lint moisture content of five to seven per cent is best for quality preservation and that nearly all of the detrimental effects attributed to ginning occur when the moisture content is either above or below this range.

Research has shown high bale values, acceptable grades, and desirable fiber quality can be achieved by properly using available equipment and methods on cotton with a moisture content within the recommended range, the group stated.

Broad harvesting recommendations were drawn up at the meeting. They are aimed at operations that result in delivering cotton to the gin capable of being processed into bales which have optimum value to both the grower and the spinner.

The ginning phase of the program places emphasis on proper drying for smooth ginning and adequate cleaning to achieve highest bale and quality value.

Two points stressed repeatedly by the group as important discussion items with both farmers and ginners were:

1. More emphasis should be given to ginning for highest bale value instead of highest possible grade.

2. Gin yard grouping of seed cotton according to moisture and trash content is highly recommended as an essential part of the over-all program for quality preservation.

Attending the workshop were representatives of the U. S. Cotton Ginning Laboratories at Clemson, S. C., Mesilla Park, N. M., and Stoneville, Miss.; federal and state extension cotton and ginning specialists; Regional Cotton Mechanization Project; Texas and Arkansas-Missouri Ginners' Associations; Industrywide Committee on Cotton Quality; Agricultural Marketing Service of the U. S. Department of Agriculture; and the Council.

Use of professional accounting advice is one way mill management executives

take the guesswork out of profits

Exclusive*

GUESSING games are fun at parties but not in business, for all businessmen face a lot of problems — such as fluctuating prices, taxes, and government restrictions—on which the advice of a swami may sometimes seem the best bet. That's all the more reason for avoiding guesswork on problems over which one can keep control.

To help take the guesswork out of their operations, more and more small businessmen are doing what big business has done for many years: Making use of professional accounting advice. Many certified public accountants (CPA's) are qualified to help on a variety of such important business questions as:

(1) Pricing for profits;
(2) Keeping taxes down;
(3) Maintaining sufficient working capital; and
(4) Planning ahead to prevent a financial crisis.

Since he serves dozens of different businesses, the CPA brings to each business a vast experience and advice that can help lead to greater profits. How? In many ways, depending on individual business needs. Here are a few examples:

Proper Pricing. A manufacturer of drapes, spreads and decorative pillows by the name of Edwards was anxious to do business with a new department store which had just announced plans to carry a line of goods such as those manufactured by him.

The store was willing to pay Edwards' prices on the drapes and spreads. However, the store stated that it had received better quotations on the pillows.

Edwards thought he could meet the competition's pillow prices and still make enough profit on the drapes and spreads to come out ahead. But when he called in his certified public accountant to review his operations, Edwards learned that the profits on the drapes and spreads did not compensate for the cut-rate pillow prices to which he had so hastily agreed, unless pillow sales were kept to an uncontemplated minimum.

He was taking a licking on sales made to the store, because of inadequate costing data and failure

"... inadequate costing data ..."

to recognize the effect that product mix has on profits.

Had Edwards been working with his CPA all along, he would have had cost records to point out the potential loss before it occurred. He might have been able to strike a satisfactory bargain with the store based on proper sales prices and product mix which would still have shown a profit.

Sometimes a "loss leader" is a good business getter. But quite often, as in the case of Edwards' cut-rate pillow prices, they occur inadvertently. By employing the accounting approach, the businessman has the tools for ferreting out all of his costs, including the "hidden costs," and allocating them properly to arrive at realistic prices.

Taxes: Why Overpay? An extraordinary thing about small business is that it frequently overpays its taxes! The reason is not charity. Unfortunately, many businessmen just aren't familiar with the many legitimate savings allowed by the federal tax law.

For example, take such a matter as buying a new quilting machine. A New England bed spread manufacturer planned to buy one. The depreciated value of his old one on the books was $500. But since his quilting machine had received unusually hard wear, the owner could get only $200 for it on a trade-in.

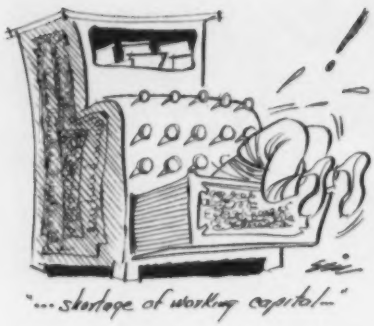
On the advice of his CPA, he handled the situation this way: Instead of making the trade, he made two separate transactions. He sold the old quilting machine for $200, and then bought a new one.

By selling the old quilting machine for $300 less than its depreciated value, he was able to deduct $300 book loss from his taxable income. If he had traded in the quilting machine, he would not have been allowed to claim the loss, since—for tax purposes—no gain or loss is considered to result from a trade-in.

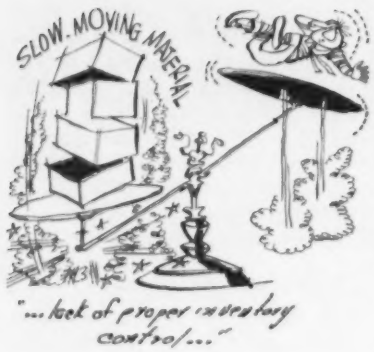
Dwindling Working Capital. A converter of cotton grey goods in New Jersey was beginning to lose sleep over what seemed like a perennial shortage of working capital. He couldn't understand it. After the war he had opened a converting business and had done well enough to expand into upholstery woven goods, ready-made drapes and spreads, etc.

"Now I'm in a spot where my biggest bills are overdue and I

*Prepared by the American Institute of Certified Public Accountants



"... shortage of working capital..."



"... lack of proper inventory control..."

have to go to the bank for an extension on my loan," he explained to CPA, whom he had called in to prepare a statement required by the bank. "Of course, I'm not really worried," the store operator added. "Everything will be all right as soon as I unload my inventory."

That was the trouble: the inventory. Before he had started to expand, it was a simple matter of knowing what he had and what was on order. But as the stock became more varied, and one-man control became more difficult because of new customers and new clerks, the owner really didn't know his stock down to the last item on the shelf anymore.

After a special study, the CPA made his report: a lopsided inventory, heavily overstocked with slow-moving material. Besides that, most of it was outdated, with a market value considerably below the owner's estimate. In the end, he was forced to liquidate—another business casualty caused by lack of proper inventory control.

Poor—or non-existent—record-keeping is a major cause of small business fatality. A recent study of business failures revealed that roughly 70 per cent of the "busted" businesses did not keep adequate accounting records.

This led to inadequate cost standards and uniformed management, and in turn to poor financial planning and disaster. The study left no doubt that faulty and misleading financial records cause more trouble than any other error of management.

Yet, there is nothing mystical about having the kind of record system which will supply accurate facts about your operations. The records a CPA sets up are less complicated than you would expect, and—except in the case of a large business—can often be maintained with a minimum of bookkeeping assistance.

Planning Ahead With a Plan. Piece goods jobber Marshall called his CPA in a flurry of excitement. He had just stumbled on a terrific "buy" in 20,000 yards of piece goods. It meant a heavy cash outlay, but how could he resist?

"Let's lay out a simple budget for the year first," the accountant suggested. Many smaller businessmen consider budgeting a waste of time, a foolish guessing game. But experience has shown that the cost of having an accountant prepare a simple financial plan is recovered many times over in increased operation efficiency.

"... records... less complicated than you think..."

"... flying by the seat of his pants..."

Instead of "flying by the seat of his pants," the businessman with a budget has the instrumentation and controls he needs to tell him where he is in relation to his "flight plan." Another virtue of a budget is that plans must be made, and the very act of planning leads to a critical examination of what is being done in the business and why.

In Marshall's case, the CPA's suspicions were well-founded. If he made the cash outlay at that moment for the 20,000 yards of piece goods, it would take months to refill his cash account. The budget, which the CPA drew up to give Marshall a picture of his expected over-all sales, purchases, and expenses as well as his likely cash position month by month, indicated that he would be short of cash for regular cash purchases and expenses for a good part of the season.

Marshall passed up the bargain, but he realized the value of financial planning as a method of telling how much cash to set aside regularly for such unexpected windfalls.

Getting the Most From Your CPA. To help the businessman achieve the best possible working relationship with his accountant, The American Institute of Certified Public Accountants suggests this list of questions be put to him at the outset:

1. Am I taking advantage — especially through advance planning—of legitimate tax-saving opportunities?
2. Are there any overhead or other costs I haven't included in my pricing?
3. How does my inventory shape up?
4. Are my finances under control?
5. Am I accepting — or giving—too much credit?
6. Have I missed any logical places to shave costs and expenses?

7. Generally, do you think my business is in good health?

Important to The Nation. As the year develops, the rising cost of labor and materials and the resulting profit margin squeeze will make the going rough for all business, especially for the small man. Yet, small business is an essential part of the nation's economy. It is important to the nation as a whole, as well as to the individual entrepreneur, that every business continue to function at a profit.

Good accounting can help to assure not only reasonable profits and the continuation of sound business—but also confidence and peace of mind for the businessman himself.

Instrument that shows how cotton will run in mill being evaluated

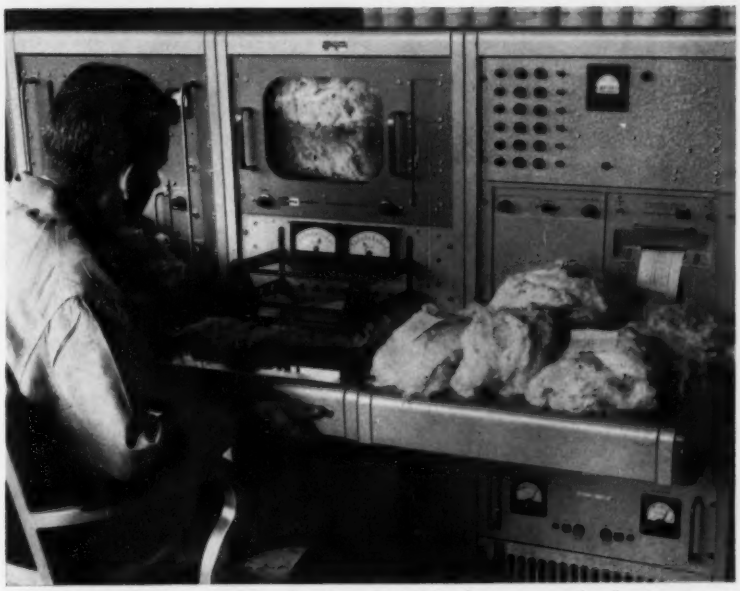
■ A MACHINE which may show farmers the true value of the cotton they produce and which apparently can give an accurate idea of how cotton "will behave on a mill spindle" was demonstrated during a recent meeting in Dallas, Texas, attended by cotton producers, mill men, and research people.

Called the "Scanor-tron," the machine is an electronic cotton classer developed by U. S. Testing Co. Using some principles of television and a built-in printer, it reportedly can measure and record rapidly the yellowness (spots or tinge), the whiteness or "bloom," and the amount and type of trash in the sample.

The meeting, sponsored by the Cotton Advisory Committee of the Louisiana Farm Bureau Federation and U. S. Testing, brought together cotton producers from Louisiana, Texas, and Mississippi, and cotton merchants and textile mill management and operating executives from Georgia, North and South Carolina, and Texas to review the operation of the electronic classer and to discuss its application toward making cotton more competitive with man-made fibers. Also on hand were Rep. Harold McSween (D-La.), representing the House Agriculture Committee, and research representatives from Texas, Louisiana, the U. S. Department of Agriculture, and the American Farm Bureau Federation.

Paul Ransom, head of the Louisiana producer group, described the Scanor-tron as "potentially the most beneficial breakthrough for the cotton industry since the invention of the cotton gin." Farmer groups representing the Louisiana and Texas farm bureaus made tentative plans to work with a limited number of cotton mills this fall to evaluate the commercial application of the electronic classing, particularly as it applies to furnishing a uniform raw cotton stock for spinning purposes.

The progress toward establishing a method of measuring the spinning qualities as well as other properties of the raw cotton fiber was outlined by Carl Cox Jr., director of the Cotton Research Committee of Texas. Mr. Cox reported results of tests run at Texas Tech on gin-damaged cotton and actual long-run spinning tests on cotton classified as to relative spinning value by Scanor-tron.



Ability of the Scanor-tron to give the same classing to the same sample of cotton is now about 97 per cent, according to Fred Fish of U. S. Testing Co., the firm which has put seven years of research into the development of the electronic classer. A. L. Brassell, president of U. S. Testing, said that development of the machine had reached the stage where it was up to the cotton industry itself to decide whether further effort would be justified.

He said that the machine was used to classify the spinning value of an even-running lot of 100 bales of cotton, with the top 12 bales and the bottom 12 bales selected for separate mixes. The two mixes were run for 2,635 spindle hours on the same frames at the same time, according to Mr. Cox, with the poor mix having 177 ends down per 1,000 spindle hours. The good mix had 26 ends down per 1,000 spindle hours.

E. E. Yawn and L. M. Woodward, representing the Eastman (Ga.) Cotton Mills, pointed out that they could not determine the efficiency of mill procedure until they could be assured of a uniform raw product. They offered the cooperation of their mill in evaluating the accuracy of the Scanor-tron classing this fall.

H. L. King, representing Texas Farm Bureau, said farmers have contended for years that present grading procedures do not reflect the true value of the producer's cotton, and offered the cooperation of farmers in the Greenville and South Plains areas for the evaluation. The Louisiana group offered to supply experimental stocks of both Stardel and Delta Pine varieties from the northeast and northwest sections of the state.

L. L. Lovell, president of the Louisiana producers group, said the farmers organization would coordinate efforts to obtain sufficient cotton from producers to make thorough evaluations of the Scanor-tron this fall. U. S. Testing agreed to keep records for the cooperating mills to show the variety of cotton, area where it was produced, ginning methods employed, and other data.

Direct treatment with chlorine gas is being used for pH reduction and for control of both neutral and alkaline hypochlorite solutions in continuous bleaching ranges

by Harry G. Smolens
Technical Service Representative
Pennsalt Chemicals Corp.

Exclusive

A TIME - HONORED textile procedure—combined hypochlorite and peroxide bleaching—is gaining adherents through a new technique which promises greater economy and closer pH control. By direct treatment with chlorine gas, the desired control over alkalinity can be obtained at the same time hypochlorite is being produced in the solution.

The benefits to the bleacher range from better quality bleaching to lower total chemical costs.

Where It Started. More than 30 years ago, a number of cotton bleaching operations using hypochlorites and peroxide were introduced to bleachers. Because they led to (1) lower chemical cost, (2) higher brightness, and (3) less fiber degradation, several of the more practical processes were adopted and have been used for years.

There have been patents issued in this area, and the technical journals have carried many articles on hypochlorite - peroxide bleaching.

Present Practices. The past few years have seen a resurgence of interest in these bleaching procedures as some of the older methods have been refurbished and promoted for application in the various continuous peroxide bleaching systems. The four most widely used procedures are:

1. Hypochlorite Desizing. The use of sodium hypochlorite for desizing cotton goods, prior to any kind of additional preparation for bleaching and/or dyeing, can be of considerable importance. It is necessary that the optimum values of available chlorine concentration and pH be determined by experimentation. Only in this way can there be a maximum size conversion and removal with no fiber degradation. This type of desizing can be done at room temperature or at the elevated temperatures which are usual in J-boxes or other steamers.

2. Hypochlorite in Caustic Saturation. The addition of sodium hypochlorite to the caustic saturator solution results in a considerable elevation of the brightness and bleachability of the cloth coming out of the washer after the J-box or conveyor steaming. However, it is necessary that the optimum conditions for hypochlorite feeding to the caustic solution be determined by experimental work. The available chlorine concentration does not depend entirely on the amount of hypochlorite used. The chlorine demand of the cloth entering the caustic saturator is probably the critical factor influencing the hypochlorite feed. This will vary with the prior treatment, if any, that the cloth may have received.

3. Neutral Hypochlorite Prebleaching. A 30-second treatment of cotton goods, especially caustic-scoured goods, with a hypochlorite solution at pH 6.8 to 7.2 can elevate the brightness and improve the bleachability to a point at which over-all bleaching chemical costs are very substantially reduced. Since most of this whitening takes place only while the cloth is in the treating solution, no additional reaction time is required. The cloth therefore runs directly from the chlorinating machine into the peroxide saturator.

4. Alkaline Hypochlorite Prebleaching. Cotton goods, especially caustic scoured goods, can be saturated with an alkaline hypochlorite solution and then steeped in a J-box for not over 30 minutes, in order to produce an elevation of brightness and bleachability that can effect a very substantial reduction in over-all bleaching chemical costs. The brightness increase takes place in the J-box.

Problems of Control. The use of sodium hypochlorite for desizing and/or caustic scouring does not involve any chemical complications since the cloth is washed before any further chemical treatment. If the singed goods are water quenched before entering the desizing solution, there can be a problem in maintaining a satisfactory constant level in the desize saturator. This is true also when sodium hypochlorite is added to the caustic saturator.

Even with a 5.0% available chlorine hypochlorite stock solution, which is somewhat stronger than the usual bleachery stock hypochlorite, it may be necessary to feed from four to eight gallons per hour per 1000 pounds of cloth. A bleaching range handling 5000 pounds of cloth per hour, requiring 30 gallons of 5% hypochlorite per hour, could waste over 3000 gallons of saturator solution per week.

Until recently the best known method of making a neutral hypochlorite solution was to neutralize sodium hypochlorite with either hydrofluoric or phosphoric acid. Since hydrofluoric is not a customary textile finishing plant acid, phosphoric has been used. Experience has shown that about 0.3 pint of 85% orthophosphoric acid per gallon of 5% stock sodium hypochlorite will maintain a pH between 6.8 and 7.2.

For each 1000 pounds of cloth, about 4 gallons of this stock solution and 1.2 pints of phosphoric acid are required. The chemical cost should be about 40 cents

However, in plant operation, cloth coming from the washer after the caustic steaming is not completely alkali-free, even with good washing facilities. This alkalinity must be neutralized, in order that a pH 6.8 to 7.2 can be maintained in the chlorinating solution. If the alkalinity carry-over is high, more phosphoric must be used to neutralize it, and the added cost can make this procedure uneconomical.

In the use of alkaline hypochlorite and a steeping J-box for reaction time to obtain maximum brightness, there are several points that require consideration. Of greatest importance, because the cloth goes directly from the J-box to the peroxide saturator, is the necessity that any reaction between the residual chemicals in the cloth and the peroxide bleaching solution take place in the

peroxide J-box, not in the peroxide saturator.

Alkaline hypochlorite, especially on cloth, will decompose alkaline peroxide. This means that the pH and the hypochlorite residue on the cloth leaving the J-box must each be below a critical value. These can vary from plant to plant.

The alkali carry-over in the cloth from the washer after the caustic steaming raises the pH and total alkalinity of the hypochlorite saturator solution. This in turn can slow down the alkaline hypochlorite reaction in the J-box so that there is too much alkaline hypochlorite left on the cloth as it leaves the J-box, causing trouble in the peroxide saturator. All of this indicates the importance of pH control in the hypochlorite saturator.

New Discovery Promises Benefits. The problems of pH control of either neutral hypochlorite or alkaline hypochlorite solutions in practical operations are troublesome, but they can be solved by this interesting new development. After a considerable amount of research and experimental work, it has been found that a practical way to reduce the pH of an alkaline cloth or an alkaline solution and at the same time make a precalculated amount of hypochlorite is to use chlorine gas. This discovery is being utilized for pH reduction and control of both neutral and alkaline hypochlorite solutions used in continuous bleaching. It can also be used in hypochlorite desizing and/or hypochlorite caustic saturation and is especially advantageous when there is a problem of satisfactory level maintenance in the saturating machine.

A practical and suitable chlorine diffuser is available for use in either rope or open-width ranges. It is essential to have properly designed apparatus for using chlorine gas. This is available at reasonable cost and can be installed almost anywhere, without requiring any valuable floor space.

The use of chlorine gas in the procedures outlined above may allow the lowest possible costs of combined hypochlorite and peroxide bleaching.

ROBERT YARNALL RICHIE

How direct chlorination cuts bleaching costs

Mohair goes to the spinning operation directly from the Pin Drafters; there is no separate roving process. A 75-grain sliver is fed; 6s to 9s yarn is delivered. Special spring-loaded sliver cans are used in mohair spinning to prevent any breakage of the tender stock.

New wool and mohair yarn mill

How Anglo Fabrics make wool and mohair yarns in a modern-from-the-ground-up plant

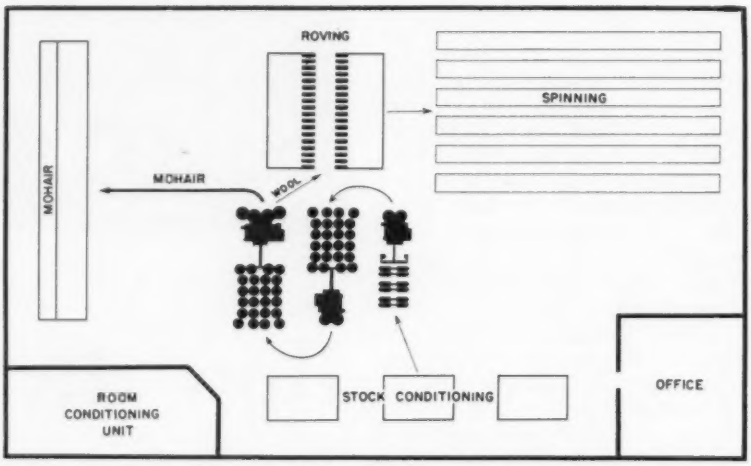
Staff prepared Exclusive

VOLUME production of high quality mohair and wool weaving and knitting yarns is now under way on a two-shift basis at Anglo Fabrics Co.'s new mill operation at Webster, Mass.

Everything about this operation is new, from completely modernized building facilities to brand-new machinery, testing equipment, and employees. The production setup was constructed to meet increased yarn requirements of Anglo Fabrics' own manufacturing operations and to supply additional yarns for sale to the trade through the company's New England Worsted Spinning Co. subsidiary.

The building itself embodies many examples of modern plant engineering. A high level of natural lighting is provided by wide, steel frame windows, supplemented at night and on dark days by an efficient non-glare fluorescent lighting system installed throughout the entire production area. Widely spaced ceiling support columns permit maximum flexibility in equipment layout and make possible exceptionally wide aisles.

The light-colored, varnished hardwood floor makes cleaning and general housekeeping prac-



Plant layout at Anglo Fabrics' new Webster, Mass., mohair and wool spinning operation.

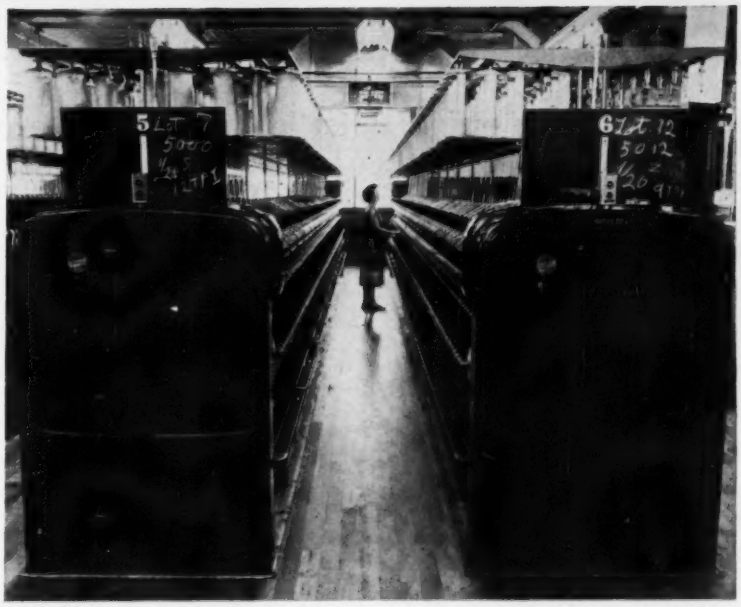
Three new Pin Dratters with dual or quad delivery handle the breaker, intermediate, and finisher operations on both mohair and wool.

Wool roving is made on two 60-spindle G10 DW roving frames. Note the high level of natural and artificial lighting and wide aisles.

tices easier; and its color, in combination with the light color paint used on walls and ceiling, tends to pick up and accentuate both the natural and artificial illumination —again without glare.

The entire production area is served by a central air conditioning and humidifying system which maintains a constant 78 F and 72 per cent relative humidity. Air purifying is handled by an automatic air wash filtering and conditioning system, which uses the same filtering water over and over again for maximum economy.

Because the air conditioning, humidifying, and filtering equipment satisfy all interior air requirements, the windows of the building are sealed, thus preventing entry of outside dust and dirt.



PHOTOS COURTESY OF WARNER & SWASEY CO.

Worsted frames are equipped with cotton-type umbrella creels. With these creels, Anglo is able to creel in an extra set of roving, thus reducing the down-time caused by run-outs.

Mohair Organization. Production machinery for the new mill was selected on the basis of high production and efficiency requirements, plus the desire for low maintenance. Because mohair is a very tender stock, drawing equipment had to provide positive, smooth operation, while at the same time being capable of high volume output.

Three new Pin Drafter intersecting draw frames were installed to handle breaker, intermediate, and finisher operations on both mohair and wool; the breaker and intermediate machines are equipped with dual delivery and the finisher machine quad delivery.

Mohair tops are dry combed by the commercial top maker on French combs with between 1% and 1¼% oil. Anglo then conditions this mohair at room temperature (78 F at 72%) up to six weeks or more.

In mohair processing, the breaker Pin Drafter, equipped with ball creel and the dual can, processes three ends of 500 grains up (1500 grains total) with a draft of approximately 7; delivery is about 215 grains/yd.

The dual-can machine used in the intermediate operation and equipped with a can creel, handles four ends up of 215 grains (total 860 grains) per delivery, with a draft of approximately 6, delivering about 140 grains/yd.

The quad Pin Drafter in the finisher operation processes four ends up of 140 grains (total 560 grains) per delivery, with a draft of about 7.5, delivering approximately 75 grains/yd.

After drawing, mohair is spun at 75 grains up, delivery of 6s to

9s worsted count (singles).

Wool Organization. Wool tops, which are all commercial, also are dry combed on French combs. The wools are conditioned by Anglo for about two weeks before use.

Wool processing through the Pin Drafters is the same as for mohair, except for differences in weights and drafts. For an average 20s count the breaker operation has approximately six ends up of 262 grains (draft approximately 7.5), delivery 210 grains/yd. Intermediate has six ends up per delivery (draft about 8.5), delivering 150 grains/yd. The finisher Pin Drafter handles six ends up per delivery (draft about 7.8), delivery 115 grains/yd.

Wool roving is made on two Super-Draft roving frames having 60 spindles per frame. Spinning is handled by six Super-Draft spinning frames with 240 spindles per frame. Worsted counts are 14s, 15s, 18s, 20s, 24s, and 30s—all singles. Roving requires the services of one operator; spinning two.

Other interesting features of the production setup include an Accumeter spray unit on the ball creel of the first operation (breaker) Pin Drafter. This spray unit is used to tint various lots for easy identification.

The worsted spinning frames are equipped with umbrella creels normally employed on cotton frames. By using the cotton creels, the company is able to creel in an extra set of roving, thus greatly reducing downtime because of runouts. As part of the quality control program, these machines are completely cleaned before creeling in or lot changes.

All tops are conditioned in the same room—under the same controlled temperature and humidity—where they are processed. Conditioning is done in portable, castered bins which hold about 2,000 pounds.

Designed so that it can be expanded to twice its present size, Anglo Fabrics Co.'s new mohair and wool yarn production operation is an outstanding example of modern textile methods, plant, and equipment.

New way to make fabrics insect-proof—compound starves bugs to death

■ LIFELONG immunity of fabrics against textile-destroying insects may be achieved through a new approach developed by a University of California entomologist.

Roy J. Pence reports development of a colorless, odorless, harmless (to humans) compound with which fabrics can be impregnated during the dyeing process.

The compound is fixed permanently in each individual fiber of the fabric, rendering the material "indigestible" to carpet beetles, clothes moths, etc., for the lifetime of the fabric. Or it can be applied in an aqueous solution to existing fabrics in the home.

The compound is one of a group of substances known as antimetabolites. The antimetabolite principal is based upon compounds structurally similar to essential nutrients such as vitamins. Very slight differences in chemical structure are just enough to cause them to be misfit links in the insect's metabolic chain.

After the young insect ingests the vitamin "look-alike," it prevents him from utilizing the essential nutrient. As a result, a sort of bug beri-beri sets in, causing the insect to die of nutritional deficiency.

However, in some little-understood manner the mature insect recognizes the antimetabolite after the first or second "mouthful" and will leave impregnated material for "greener pastures" before any real damage is done. Thus, in effect, the fabric becomes immune to insect attack.

The UCLA entomologist has labeled one of his compounds P-61 (after a page number in his original manuscript reporting on his work).

1958 man-made fiber broad woven goods output up 4 per cent

■ THE PRODUCTION of man-made fiber and silk broad woven fabrics totaled 2,384 million linear yards in 1958, according to a recent Bureau of the Census report. This was 55 million yards or 4 per cent more than the 1957 output.

Rayon and acetate broad woven fabric production was 1,654 million linear yards, 190 million more than the quantity manufactured the year before. On the other hand, other man-made fiber fabric production (including silk) in 1958 declined to 730 million linear yards from the 1957 level of 825 million.

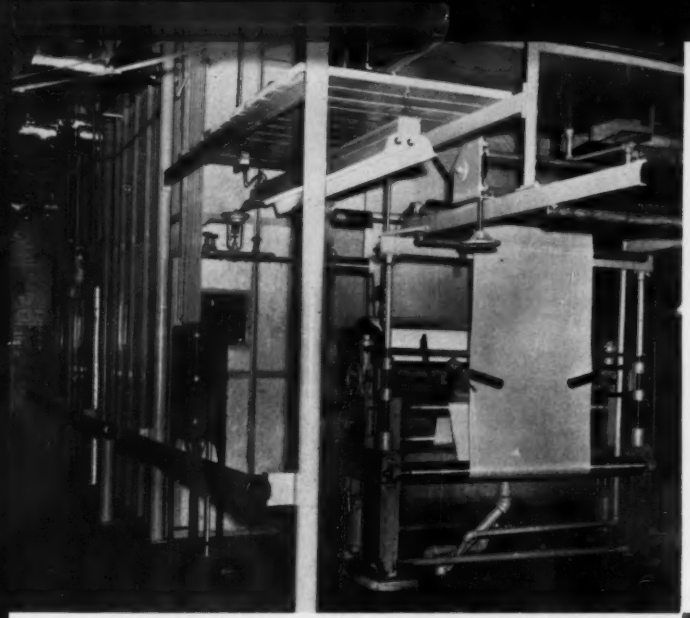
The 1958 output of 100 per cent filament rayon and acetate yarn fabrics at 704 million linear yards was 2 per cent above the 1957 level, while production of 100 per cent spun rayon and acetate yarn fabrics at 419 million was 49 per cent higher.

Yarn Consumed. Mills which primarily produce man-made fiber and silk fabrics used 756 million pounds of yarn in 1958—an amount 24 million pounds greater than the 1957 total. 86 million pounds of the yarn was cotton, 442 million pounds rayon and acetate, 43 million pounds nylon filament, and 185 million pounds all other types, including blends.

Man-Made Fiber Staple Consumed by Cotton Mills. Nearly 456 million pounds of man-made fiber staple were used in cotton system mills in 1958, an amount 5 million pounds greater than the 1957 total. Rayon and acetate staple consumed was reported to be 383 million pounds, with the remaining 73 million classified as "other man-made fiber staple."

Looms Used. On December 31, 1958, there were 96,300 looms in place at mills which primarily produce man-made fiber and silk fabrics, 1,731 less than the number reported in 1957. Of course, the majority (93,905) were cotton, silk, and synthetic type looms, and the remaining 2,395 were listed as woolen and worsted type.

Of the cotton, silk, and synthetic looms, 46,290 were reported to be single-shuttle dobby looms, 21,824 box looms, 19,052 single-shuttle plain looms, 6,739 pile fabric and Jacquard.



Cloth enters the range through overhead scutcher and then through a fifteen-ton two-roll pad built in the mill shop. Note that the dry cans are completely enclosed from floor to ceiling. The cylinders on the side of the hood are part of automatic lubrication system.

New dryer breaks bottleneck

by M. D. Rochelle
North Carolina Finishing Co.

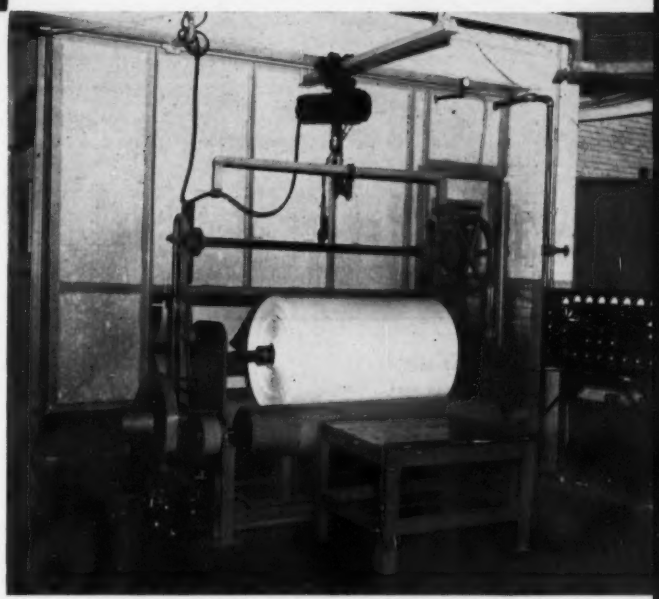
Exclusive

A NEW dry-can range capable of speeds up to 300 yards per minute was recently installed in the North Carolina Finishing Co. bleach department. The drying range eliminated an expensive production bottleneck.

Formerly, all cloth bleached on the continuous bleach range was stored in bins at the end of the range. The cloth was wet and in rope form and had to be dried before dyeing or finishing. Tenter frames had to be used to dry this cloth.

When the frames were in use, the dyed goods to be finished were put aside until drying was completed. This created a bottleneck behind the frames and also caused poor flow into the put-up department. The new dry-can range now dries all cloth from continuous bleach range bins, thereby eliminating the expensive bottleneck in production.

The new range operates at about 250 yards per minute average on 3.00-yard cloth. At 90% efficiency, this amounts to 1,620,000 yards for 120 hours of operation.



Cloth is doffed on high-speed automatic cloth winder built in mill shop. It has hydraulic lift arrangement which raises and pushes roll onto cloth table. Main control panel is at right. Operator spends most of his time at this location, checks both quality and moisture.

THIS RANGE consists of an opening scutcher which opens up the goods from rope form to open width, a wet-out box, a 15-ton two-roll pad which reduces moisture to a minimum before the cloth goes on the cans, six stacks (each stack having ten 23" diameter stainless steel dry cans which are belt driven), and a high speed doffing arrangement.

The complete unit is powered by d-c drive with each stack of cans individually driven. This permits better tension control and smoother operation.

Each set of cans is operated on 50 pounds steam pressure maximum, but each stack can be throttled to produce lower temperatures when necessary.

The last three cans on the new 60-can drying range are used as cooling cans so that the cloth being doffed will not come off the range too hot. Cooling the cloth prevents yellowing and also reduces the static electricity in the roll. The cooling water, which is heated up by reason of the hot cloth passing over it, is piped to the pad at the front end, giving hot water at no additional expense.

The cylinders are totally enclosed from ceiling to floor in order to reduce steam consumption and to better control exhaust. The enclosure also acts as a safety measure.

A fully automatic mist spray lubrication system lubricates all 255 bearings on the range. The machine is operated by one man full-time with a helper part-time.

Get more information from

How to interpret and present inventory figures more clearly

by Fred H. Drewes
Co-manager
Palmetto Yarn Mills

Exclusive

ONE OF THE complexities of present-day mill accounting is caused by the necessity for control reports on textile inventories. The reports are a problem, since it is necessary to list raw materials, work in process, manufactured yarn, grey cloth, and finished cloth. The mill group which we shall use as an example also uses metallic yarns extensively in finished products, and since they represent a large investment, it becomes necessary to treat them in a separate category.

Weekly reports, of which examples are shown in *Figure 1*, are posted by dollar value, to the nearest dollar, from working papers for each mill. The reports give figures on raw materials purchased or consigned to each mill, raw materials transferred to the "in processing" stage, and raw materials removed by sale to customers or transferred to other mills in the group.

In the same manner, purchases, consignments, transfers, and removals of yarn are recorded in the appropriate columns.

In recording transfers of grey and finished cloth out of the "in process" category, it is necessary to determine the poundage involved, and to arrive at an average weight in lb per yd. This poundage is then adjusted by a percentage to compensate for waste and other losses.

The "removal" of grey cloth and finished cloth covers both

Figure 1. Typical weekly inventory reports.

WEEKLY REPORT — WEEK ENDING _____
PALMETTO YARN MILL, PAGELANDS, S.C. — REPORT NO. _____

	YARN RAW MAT'L	IN PROCESS	MFG'D YARN	TOTAL
BALANCE PRIOR WEEK				
CONSIGNED THIS WEEK				
TRANSFERRED "IN" THIS WEEK				
ADJUSTMENT				
SUB TOTAL				
TRANSFERRED "OUT" THIS WEEK				
REMOVED THIS WEEK				
ADJUSTMENT				
BALANCE TODAY				

WEEKLY REPORT — WEEK ENDING _____
NEISLER MILLS, ELLENBORO, N.C. — REPORT NO. _____

	YARN RAW MAT'L	IN PROCESS	GREY CLOTH	TOTAL
BALANCE PRIOR WEEK				
CONSIGNED THIS WEEK				
TRANSFERRED "IN" THIS WEEK				
ADJUSTMENT				
SUB TOTAL				
TRANSFERRED "OUT" THIS WEEK				
REMOVED THIS WEEK				
ADJUSTMENT				
BALANCE TODAY				

WEEKLY REPORT — WEEK ENDING _____
NEISLER MILLS, KINGS MOUNTAIN, N.C. — REPORT NO. _____

	RAW MATERIAL	IN PROCESS	MANUFACTURED YARN	METALLIC YARN	GREY CLOTH	NAPKINS	TABLE CLOTH	TOTAL
BALANCE PRIOR WEEK								
CONSIGNED THIS WEEK								
TRANSFERRED "IN" THIS WEEK								
ADJUSTMENT								
SUB TOTAL								
TRANSFERRED "OUT" THIS WEEK								
REMOVED THIS WEEK								
ADJUSTMENT								
BALANCE TODAY								

inventory reports

cloth which has been shipped to customers and cloth which has been billed but is being held awaiting shipping instructions.

The details from the working papers are posted to a ledger in which controls are maintained for each step or mill operation. The individual accounts are posted as "receipts and releases," corresponding to debits and credits.

The separate ledger sheets are added monthly and the monthly totals accumulated. Tapes are run to establish agreement with control sheets which are in turn verified with the "balance today" figure of each class or division of the weekly report. Then at inventory periods these figures are reconciled and adjusted to the actual physical inventory.

Supplementary Reports. At this point the accountant's work is usually completed, but we prepare a series of additional reports and charts designed to permit a better interpretation and presentation of inventory values. These require but a few moments weekly to accumulate and plot.

We have found these reports and charts to be indispensable for analyzing inventory trends in factoring textile accounts.

The supplementary reports consist of a series of tabulations on raw materials, work in process, manufactured yarn, grey and finished cloth, metallic yarn, etc., plotted weekly from the "balance today" column of the weekly reports. In other words, they are entered on a weekly comparison sheet which is cross-totaled to indicate the amount remaining "on hand" for division-wide mills, as in *Figure 2*.

The totals of the money value

Figure 2. Week-to-week raw material inventory for each mill.

PROGRESS REPORT (WEEK TO WEEK BALANCES) RAW MATERIALS

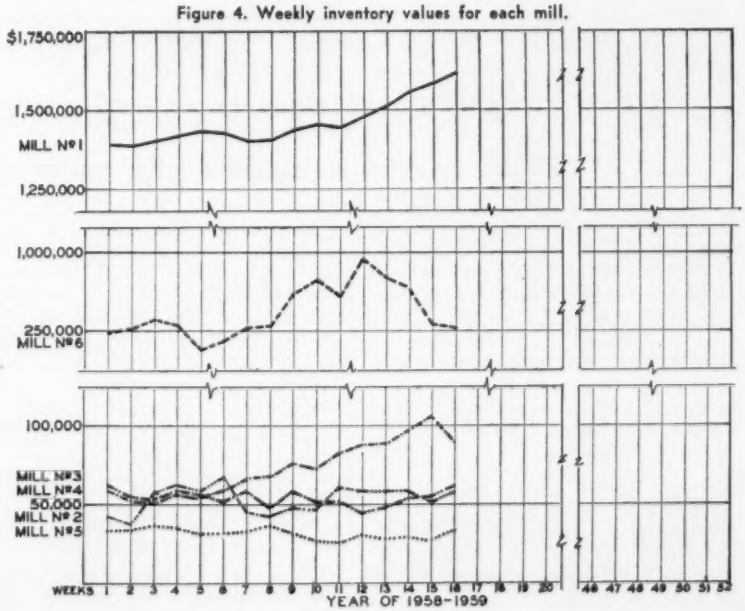
REPORT NO.	WEEK ENDING	MILL #1	MILL#2	MILL #3	MILL#4	MILL #5	MILL #6	TOTAL VALUE ALL MILLS
1	9-29-58	$128,196	$ 4,116	$26,960	$ 6,379	$ 7,406	$113,765	$286,872
2	10-5-58	113,062	5,443	24,424	2,879	7,000	112,035	265,843
3	10-13-58	134,429	12,091	21,545	2,900	7,630	110,188	291,786
4	10-20-58	108,812	9,592	23,521	4,000	7,586	103,872	256,543
5	10-27-58	135,185	8,265	16,446	56	7,598	96,335	263,885
6	11- 3-58	113,581	10,555	19,321	170	7,105	106,285	257,021
7	11-10-58	123,841	13,013	14,112	166	7,133	98,442	256,707
8	11-17-58	118,428	12,512	13,670	2,316	6,731	104,787	258,444
9	11-24-58	130,540	12,118	12,351	10,316	7,448	102,772	277,585
10	12- 1-58	147,986	12,879	13,757	4,760	6,516	99,050	284,948
11	12-8- 58	142,265	24,481	13,971	7,251	6,516	93,184	287,810
12	12-15-58	128,438	20,572	9,908	8,688	7,452	107,118	282,181
13	12-22-58	129,294	23,548	10,115	13,016	15,888	94,781	287,042
14	12-29-58	161,246	23,578	13,488	9,832	15,888	85,332	309,424
15	1- 5-59	171,479	21,622	12,565	17,237	15,968	76,784	315,655
16	1-12-59	172,979	37,500	16,078	17,237	17,511	70,241	321,546
17	1-19-59							
18	1-26-59							
19	2- 2-59							
20	2- 9-59							
46	8-10-59							
47	8-17-59							
48	8-24-59							
49	8-31-59							
50	9- 7-59							
51	9-14-59							
52	9-21-59							

Figure 3. Consolidated inventory totals by processes.

INVENTORY VALUES (CONSOLIDATED TOTALS OF ALL MILLS) BY PROCESSES

REPORT NO.	YARN RAW MATERIAL	IN PROCESS	MFG'D YARN	METALLIC YARN	GREY CLOTH	NAPKINS & TABLE CLOTH	TOTAL VALUE ALL PROCESSES
1	$286,872	$923,318	$131,098	$37,815	$472,890	$490.	$1,852,491
2	265,843	934,565	102,238	40,261	471,761	490.	1,816,158
3	291,786	942,138	114,661	39,935	483,232	490.	1,872,132
4	256,543	944,848	140,481	41,491	471,404	490.	1,897,257
5	263,885	938,307	154,404	42,393	479,952	490.	1,880,092
6	257,021	940,285	154,536	41,220	494,032	490.	1,888,134
7	256,707	952,843	145,662	42,281	461,926	490.	1,859,578
8	258,444	954,270	138,457	41,191	470,111	490.	1,862,963
9	277,585	976,804	136,780	42,140	494,922	490.	1,927,556
10	284,948	974,686	137,109	37,949	509,046	490.	1,944,228
11	287,810	961,207	145,510	38,268	518,541	490.	1,951,826
12	282,181	986,514	137,210	36,323	556,817	490.	1,999,535
13	287,042	988,411	116,230	34,065	592,332	490.	2,014,721
14	309,424	971,873	138,479	35,004	616,005	490.	2,071,275
15	315,655	941,742	131,829	37,304	630,613	490.	2,057,613
16	321,546	947,506	110,447	47,228	654,792	490.	2,084,509
17							
18							
19							
20							
46							
47							
48							
49							
50							
51							
52							

Figure 4. Weekly inventory values for each mill.



of each group or classification are then summarized as to total inventory values (consolidated total of all mills) by processes, as in *Figure 3*.

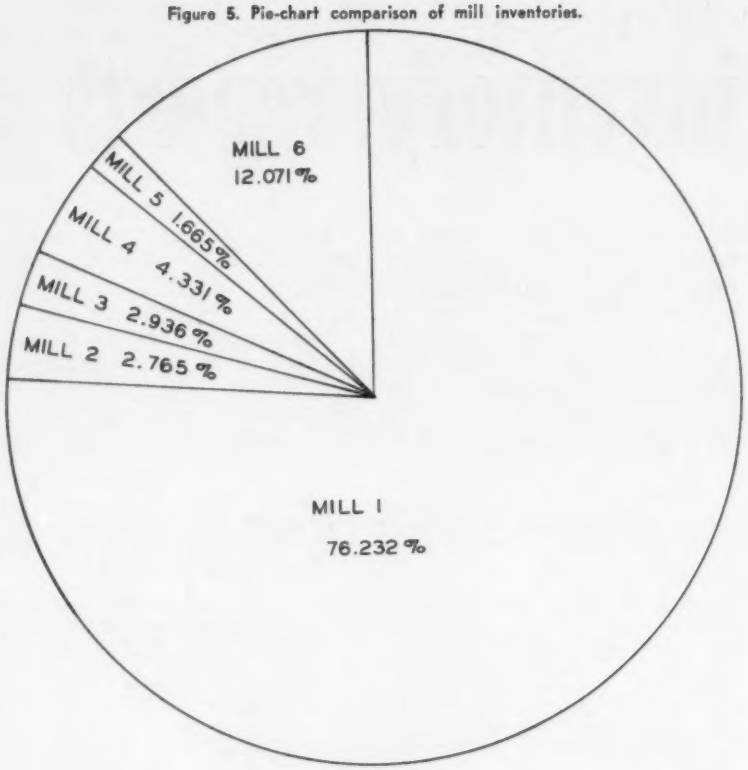
From the foregoing, unusual increases in operations are quickly detected, likewise mill shutdowns or curtailments in activities are also easily spotted. The supplementary reports when plotted onto a graphic chart further reflect unusual dips and these stand out prominently. The combined or total week-to-week inventory status in money value, plus the plotting of the figures on charts, permits better interpretation and presentation of inventory values.

It is not the purpose of a graphic chart to furnish a record of values accurate to the last figure. A chart is intended to show, pictorially, comparisons, trends, and relationships and it is generally sufficient, for all practical purposes, if the values can be read from the chart to the nearest two or three figures. Therefore, the data sheets upon which the figures are tabulated are intended to accompany the charts and it is then a simple matter to refer from chart to data sheet and determine the exact values for any given mill or inventory value of any process.

Figure 4 offers a graphic presentation of the total inventory value for the mills—detailed for a limited period. The mill numbers assigned as well as values indicated are for example only and are not the actual inventories as maintained by the writer. The grand total of inventory values equals the inventory values (consolidated total of all mills) by processes, referred to in *Figure 3*.

The use of circular percentage charts or pie charts is an added feature in presenting figures. The circumference of the circle is divided into 100 equal parts and straight lines are drawn from the center of the circle to these division points on the circumference. Thus, the circular percentage chart *(Figure 5)* will show, to scale, the relation in per cent of the inventory values of each mill (the sectors) to their sum total of the whole (the circle).

Figure 5. Pie-chart comparison of mill inventories.



Shade change a problem with durable creasing of apparel wools

■ IN THE durable creasing and pleating of all-wool apparel by the Si-Ro-Set method* garment manufacturers and dry cleaners have encountered shade changes in certain ranges of colors, The Wool Bureau reports. Of course, use of dyes which show minimum shade change is desirable if shade differences between various parts of made-up garments is to be avoided.

Wool textile manufacturers who are engaged in the production of apparel fabrics that could be subjected to the Si-Ro-Set treatment may find useful the following recommendations which had been received from domestic dyestuff suppliers when this issue of TEXTILE INDUSTRIES went to press:

Arnold, Hoffman & Co., Inc., a subsidiary of Imperial Chemical Industries Ltd. of England, states that tests conducted in I.C.I. laboratories demonstrate that use of the Carbolan dyestuffs eliminates or greatly minimizes shade change. A complete range of shades, including fashion shades, is said to be easily obtainable with these dyes which are individually rated from "good" to "excellent" in their performance in conjunction with the Si-Ro-Set process,

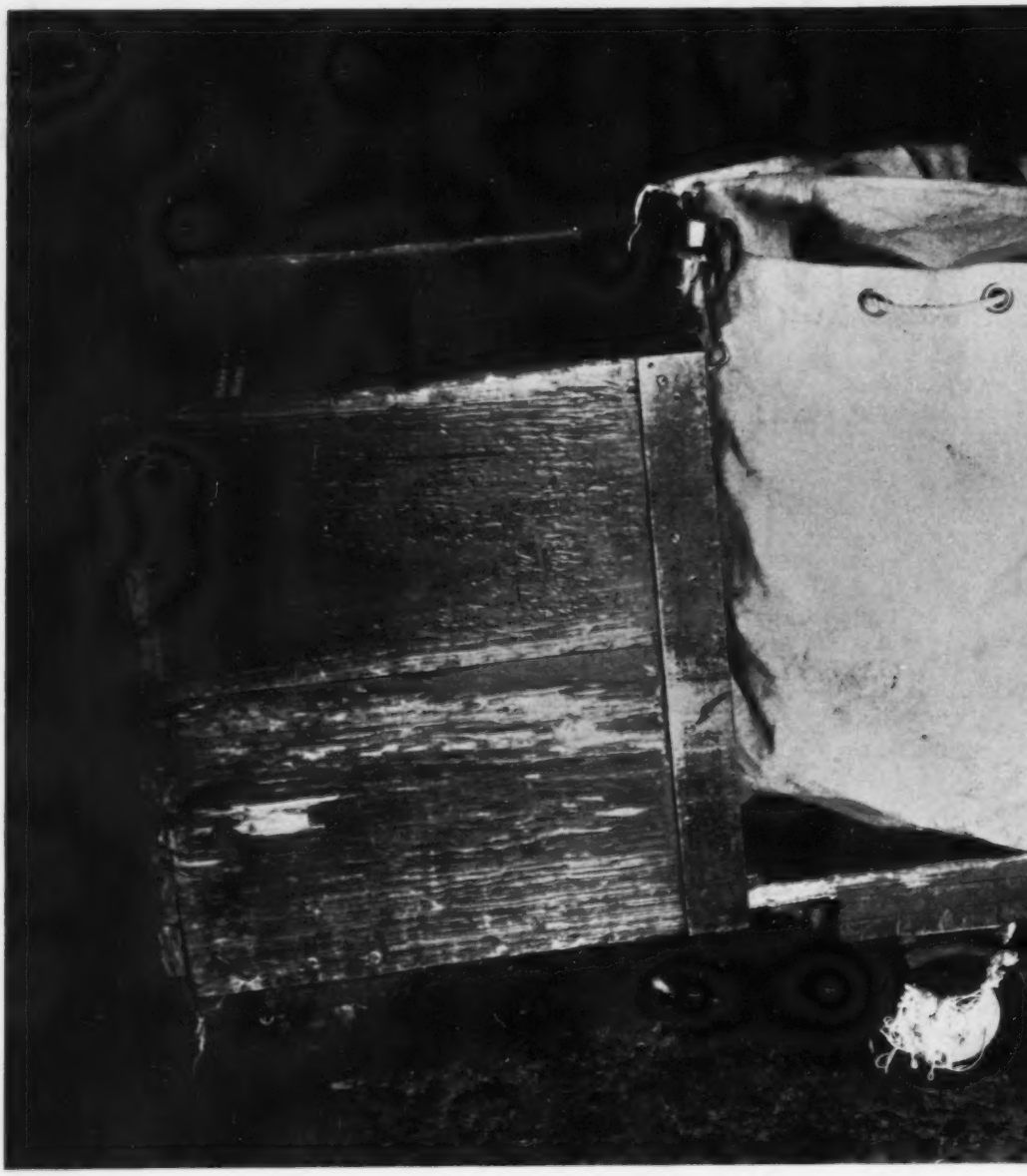
Sandoz, Inc., suggests the use of dyestuffs such as neutral dyeing Xylene Fast-P, Brilliant Alizarine Milling, Lanasyn, and Metomega Chrome Colors, which do not require neutralizing. This recommendation is based on information contained in a research report entitled "Dyestuffs for Woolen Goods Pleated by the Si-Ro-Set Process" published by Sandoz Ltd., Basle, Switzerland.

*Developed by the Commonwealth Scientific and Research Organization in Australia, it is based on the application, to finished garments, of ammonium thioglycolate followed by steaming or pressing. For technical information about the process, write The Wool Bureau, Inc., 16 West 46th St., New York 36, N. Y.

Tear along this line to post on bulletin board

Hey, Truck Users! Che

Keep threads pulled off to save your energy and wear on tires and floors. A



Textile Industries

34

Tex

neck those casters often

rs. And please report damage to trucks before they get in the condition of this one.

extile Industries POSTER SERVICE

This is one of a series of manufacturing hints and employee reminders in poster form, designed for placing on mill bulletin boards. Reprints are available. Write to The Editors, "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

How to quickly find count of 2-ply yarns

by Steven D. George
International Engineering Associates

Exclusive

WHEN two yarns are twisted together the resulting yarn number can be computed from the relation

$$R = FS \div (F + S)$$

where

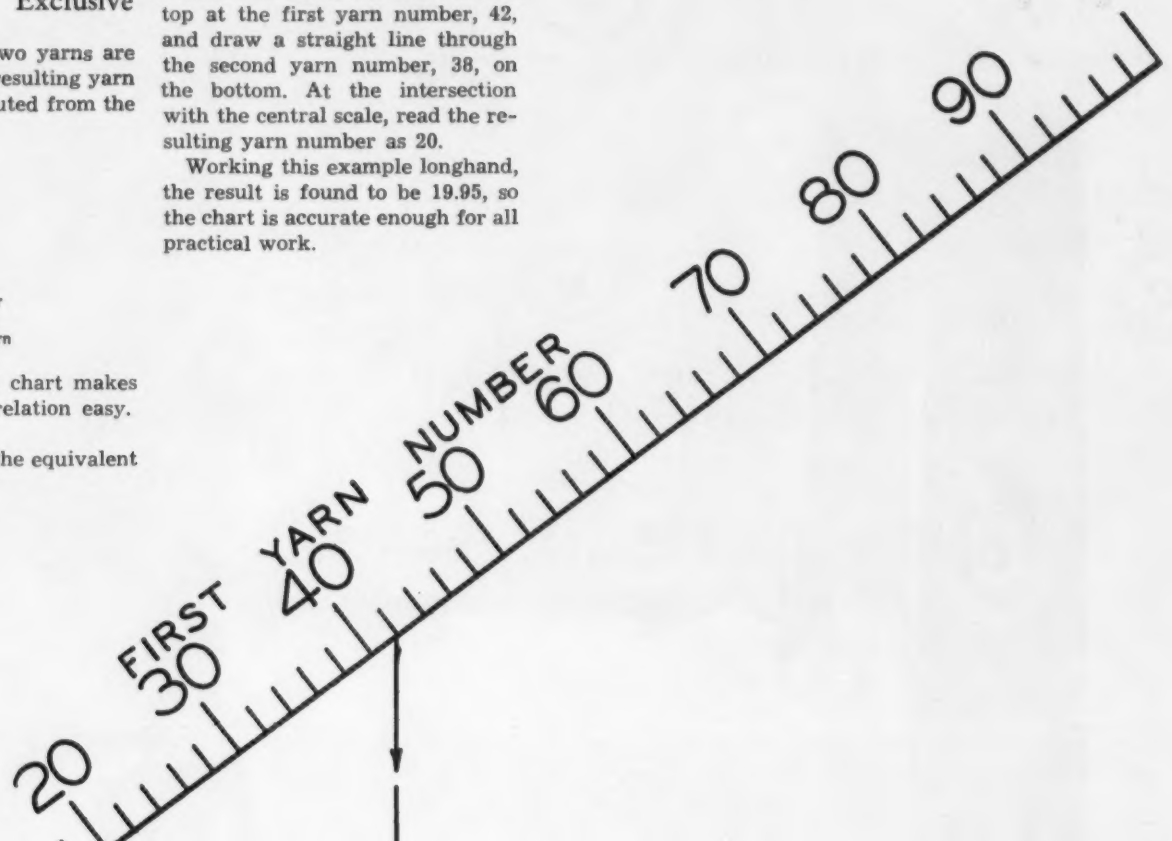
R = resulting yarn number
F = number of first yarn
S = number of second yarn

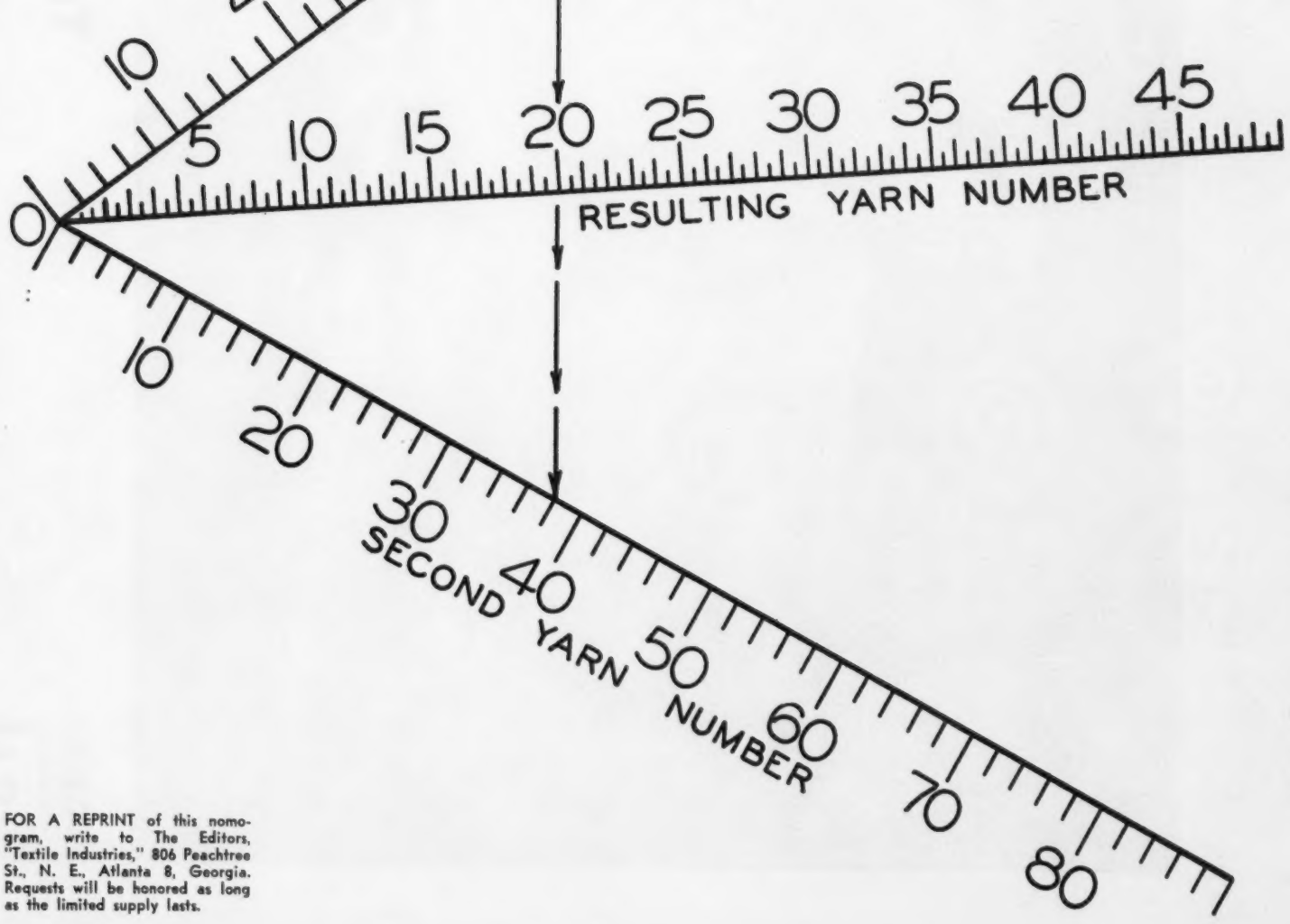
The accompanying chart makes the solution of this relation easy.

Example. What is the equivalent number of the resulting yarn when a 42s is twisted with a 38s?

Solution. Enter the chart at the top at the first yarn number, 42, and draw a straight line through the second yarn number, 38, on the bottom. At the intersection with the central scale, read the resulting yarn number as 20.

Working this example longhand, the result is found to be 19.95, so the chart is accurate enough for all practical work.



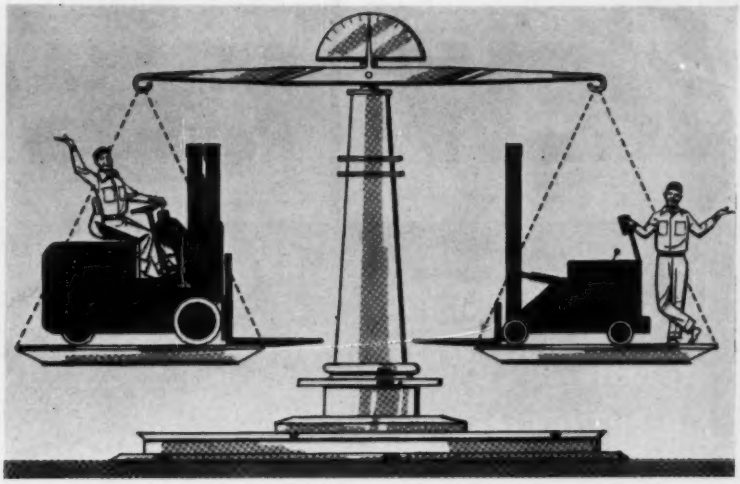


FOR A REPRINT of this nomogram, write to The Editors, "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Georgia. Requests will be honored as long as the limited supply lasts.

Tear along this line

Walkie or rider type lift trucks?

Which is better? When?



Extract*

■ ORIGINALLY, motorized hand trucks (walkies) had their own easily defined place in any handling scheme, namely that of supplementing rider-type trucks or for horizontal movement only. Rider-type trucks have been the standard lifting-transporting machine. Tremendous numbers of modifications and attachments have increased their versatility.

Today, a new trend in the development of walkies has taken the simplicity out of the decision of whether to buy a walkie or a rider-type truck. Formerly you needed only to ask, "Is it for transporting over short distances only—or is stacking part of the operation?" If it was the former, you got a walkie-type truck. If stacking was involved, the answer was equally clear: You bought a rider-type.

But *now*, stacking models of walkies are available in a range of sizes and capacities extending far into what was once exclusively rider-type territory. In fact—it's hard to name a modification or special-use attachment available on rider-types that you can't get on a walkie.

That raises the question: Do walkies sometimes *supplant* as well as *supplement* rider-types?

Confusion?

Let's see what we can do to reduce or even eliminate the confusion.

A "general rule" is a booby-trap—but it's also a starting point. Let's start with this one and modify it so we don't get trapped.

General rule: *If stacking is required, chances are you need a rider-type.*

Now let's modify it.

Modification number 1: If the operation is intermittent, a walkie-stacker will probably do the job at less cost.

Modification number 2: If the distance to be traveled is short (200 feet or less is the accepted description of "short"), a walkie is indicated. But (modification of the modification), an extremely busy operation of 50 feet or more could put rider-types back in the running.

Safety is not a major factor here. Both are safe. But in the case of slippery floors, rider-types would give the operator an extra margin of safety and more comfort.

Modification number 3: Walkies are usually better for operation in congested areas. The counter-balance rider-type partisans are labeling the narrow-aisle concept a myth. In a few plants, they argue, do you save enough space by narrowing the aisles to pay for the time it takes to talk about it.

But there are situations where you don't have any choice of aisle width. On production lines the distance between machines is set by the nature of the production method. The walkie, with steering angle of 180 degrees or more, theoretically can turn in its own length, thus is sometimes the only type that will fit.

Another kind of congestion is unalterable—elevator size. You can't stretch the shaft sideways. Sometimes a walkie will fit where the rider-type best suited to the job won't fit.

Modification number 4: Floor loading limits and elevator capacities sometimes outlaw rider-types in favor of walkies' lighter weight. This, like the width of the elevator shaft, automatically makes the decision for you. A walkie fork truck, for example, will weigh about half as much as its rider-type counterpart.

Load capacity is seldom a deterrent to selection of a walkie. Walkies will take practically any load that you can move with the average rider-type.

If there are no unalterable decision-making developments in the foregoing modification, it's probably the economics that will govern when the decision can favor either rider-type or walkie. When more than one unit can be bought, the most practical solution for optimum results is to get the number of each that is needed.

But if it's either rider *or* walkie, what are the economics?

Walkie original purchase price averages 30 to 60% less than riders—and the batteries cost 30 to 60% less. If the comparisons are restricted to electric-powered trucks in both cases, the maintenance cost is not an important factor. Both are low.

Here's a quick summary of the conditions which tend to favor selection of each type:

WALKIES

Intermittent operation
Limited floor-loading or elevator capacity
Congested areas
Limited purchase budget
Truck and car loading (depends on conditions)

RIDERS

Stacking required
Travel over long distances
Extremely busy operation
Extra-heavy loads
Grades—up ramps, etc.
Truck and car loading (depends on conditions)

*From brochure entitled "Walkie or Rider Trucks," published by the Automatic Transportation Co.

NEW

AMERICAN MONORAIL Roving Frame Cleaner

the ONLY Cleaner with INSTANT AUTOMATIC AIR CUT-OFF Anyplace over the frame . . . .

When roving frame stops, air from cleaner stops instantly regardless of position of cleaner. Cleaning resumes when cleaner passes over the next operating frame. This instant cut-off prevents doubling, roving breaks, roving stretch between front and flyer cap, sliver breaks and shredding. Your yarn quality goes up as soon as you install this cleaner.

A famous mill, where this new cleaner is in operation, reports a 70% decrease in slubs introduced during this operation. This permits closer spooler settings and results in higher quality yarn. 80% of normal manual cleaning is eliminated.

Thoroughly cleans — Flyer Caps . . . Tops of Roving Cans . . . Sliver rods and guides . . . Stop motion . . . Alleys.

AMERICAN MONORAIL

Engineered Automatic Cleaning and Handling Systems

OVERHEAD HANDLING EQUIPMENT

1106 EAST 200th STREET CLEVELAND 17, OHIO

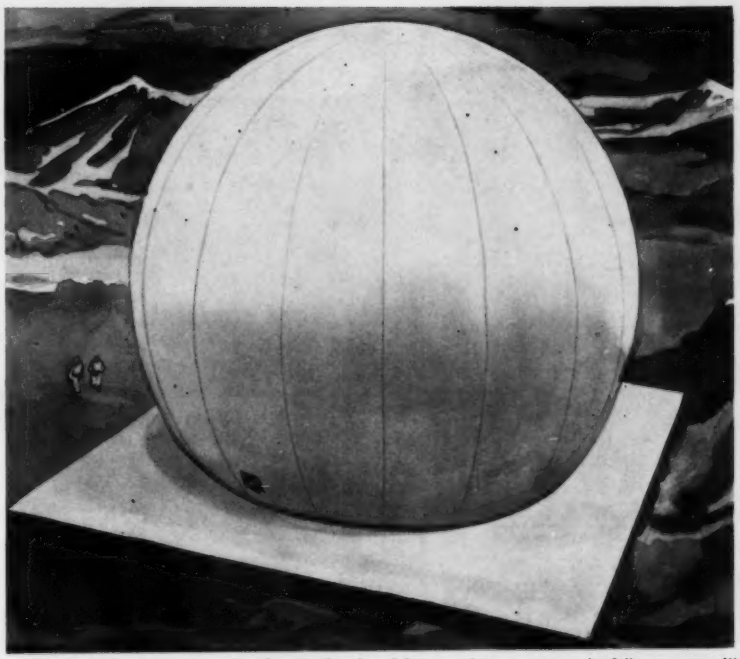
MEMBER OF AMERICAN TEXTILE MACHINERY ASSOCIATION

News in brief

(from page 81)

approach will be through distorting the yarns and making the distortion permanent by chemical treatment.

LTI Research Projects. Lowell Technological Institute recently announced two new research projects in the field of textiles. An eight-month project amounting to $3,422, sponsored by the Quartermaster Research and Engineering Command, concerns a study of the various methods of producing mats for the evaluation of thermal protection of natural and synthetic fibers. The U.S. Department of Agriculture is sponsoring a three-year project of $35,037 for investigations designed to develop winter-weight cotton fabrics having good warmth properties, using the woolen system for producing the yarns.



New seamless radome is made of coated nylon fabric, and is constructed of "orange peel" sections, staggered and laminated to give a uniform cover of 3/32". Inflatable radomes were formerly made with a lap joint seam, thicker where the fabric overlapped, producing slight distortion or attenuation of the radar beam. The new construction eliminates this fault.

Dye Production Off in 1958. U. S. production of dyes in 1958 amounted to 140 million pounds—2% less than the 143 million pounds produced in 1957 and 8% less than the 1956 figure, according to a report of the U. S. Tariff Commission. Sales in 1958 amounted to 139 million pounds, valued at $177 million. Four classes of dyes accounted for more than 70% of total output in 1958: vat dyes, 30%; sulfur dyes, 18%; direct dyes, 15%; and acid dyes, 8%.

Council Supports Import Restrictions. A delegation representing the National Cotton Council has called on Agriculture Secretary Benson, urging him to invoke Section 22 of the Agricultural Adjustment Act. This provides relief against imports when they "tend to render ineffective or materially interfere with" agricultural programs of the federal government. The Council thus joins the numerous textile associations and the Arkansas-Missouri Cotton Ginners Association which have called for this action.

Executive views

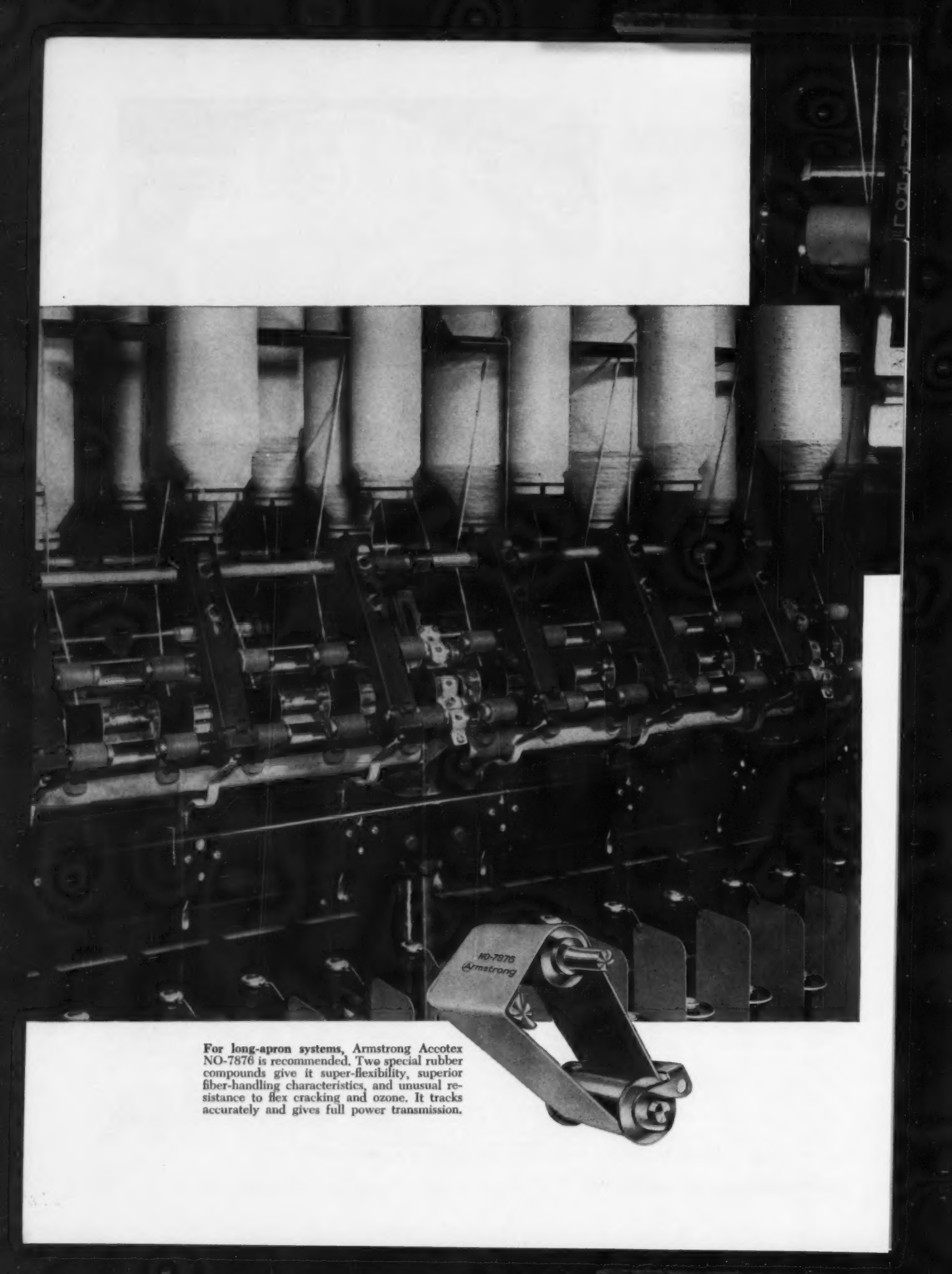
(from page 87)

advertising. The steelworkers' racket was already beginning to soften up the public for another raid on the national pocketbook, which is in process at this writing, and we can hardly think of any American working people less entitled to higher wages than these steelworkers. The steelworkers' wages are said to be more than twice the average wage in the textile industry and in several other major industries, so that it is perfectly evident that the people who run this organization are interested only in the possibilities of extortion, and not the public interest which is affected by their demands.

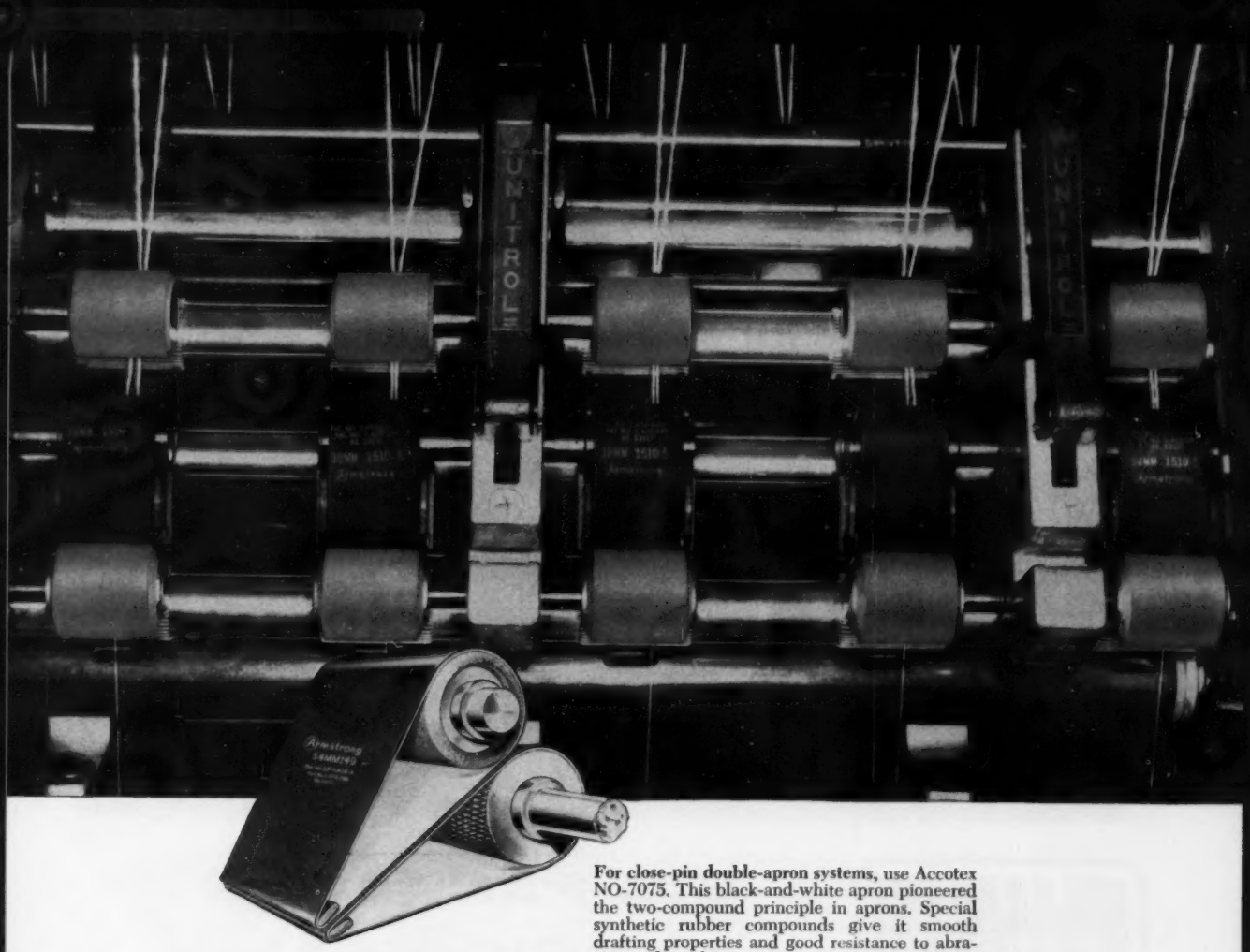
The next day *The Atlanta Constitution* carried a display advertisement of the American Iron & Steel Institute, and the meat of their story was:

> Inflation is caused by a lot of things. But one of the most important is rising labor costs without a substantial increase in the nation's production efficiency. The reason: 75 per cent or more of the final cost of what you buy goes for labor.
>
> It's kind of a chain reaction. With each round of wage and price increases, your dollars lost another chunk of purchasing power.
>
> If things keep on this way another twenty years—or ten—or five, what will you get for your dollar? What will happen to your savings, your insurance, your pension plans . . . your children's education?
>
> Isn't it time to stop this spiral that eventually robs you of your future security?

It is certainly good to see that at long last some of the big corporations of the United States are beginning to realize that something has to be done about this endless and senseless wage spiral, which fattens the groups who operate the labor monopolies and impoverishes the people living on fixed incomes, or who are employed by industries so highly competitive that they can not extort unlimited wages from the public.



For long-apron systems, Armstrong Accotex NO-7876 is recommended. Two special rubber compounds give it super-flexibility, superior fiber-handling characteristics, and unusual resistance to flex cracking and ozone. It tracks accurately and gives full power transmission.



For close-pin double-apron systems, use Accotex NO-7075. This black-and-white apron pioneered the two-compound principle in aprons. Special synthetic rubber compounds give it smooth drafting properties and good resistance to abrasion and cracking.

Spin quality yarn on any high-draft frame with Armstrong Accotex Aprons

Smoothness . . . uniformity . . . strength: all the things that add up to quality yarn depend largely on the performance of your spinning aprons. That's true whether you're using a close-pin double-apron system or one equipped with long bottom aprons.

To keep yarn quality high, hundreds of mills have standardized on Armstrong Accotex Aprons. These aprons have just the right frictional qualities for smooth drafting on any frame . . . and the right fiber-handling characteristics to produce quality yarn from any fiber or blend.

Another reason for this performance is the tough cord interliner that prevents stretching or curling of the apron. This patented Accotex construction maintains the apron's dimensional stability and assures smooth operation.

Your Armstrong man will gladly arrange for a test of Accotex Aprons. For information, write Armstrong Cork Company, Industrial Division, 6409 Ivy St., Lancaster, Pennsylvania.

Armstrong ACCOTEX APRONS

. . . used wherever performance counts

See this at Atlantic City

BARBER COLMAN

BIG PACKAGES and BIG BEAMS

The development of process machinery to handle larger packages and wind larger beams has introduced important economies in mill operation. See these new ideas in action at Atlantic City. Learn how you can benefit by using these methods in *your* mill.

AMERICAN TEXTILE MACHINERY EXHIBITION

ATLANTIC CITY

ATLANTIC CITY, N.J.
MAY 23-27, 1960

SUPER-SPEED WARPERS

Watch the new Barber-Colman Super-Speed Warper and Creel in operation on typical yarns. This great machine is redesigned throughout for better economy, easier operation, and improved performance. In addition, the Barber-Colman exhibit will present many other interesting and up-to-date ideas of substantial value. *Plan now to visit the big show at Atlantic City.*

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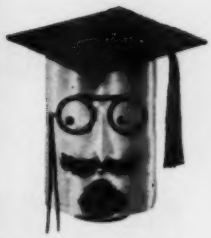
TEXTURED YARN SEMINAR



#12 of a series

HOW TO STOP END BREAKAGE AND CUT STREAKING

There's an easy way to prevent end breakage and minimize streaking with textured filament yarns. Just change your copper creel tubing to plastic tubing. The filaments will glide smoothly through the plastic tubing to the needles without damage.

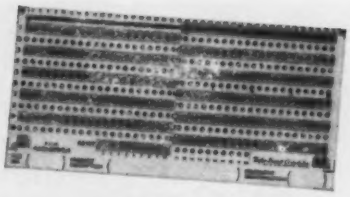
In changing to the new filament yarns, most problems can be avoided if you keep this fact in mind:

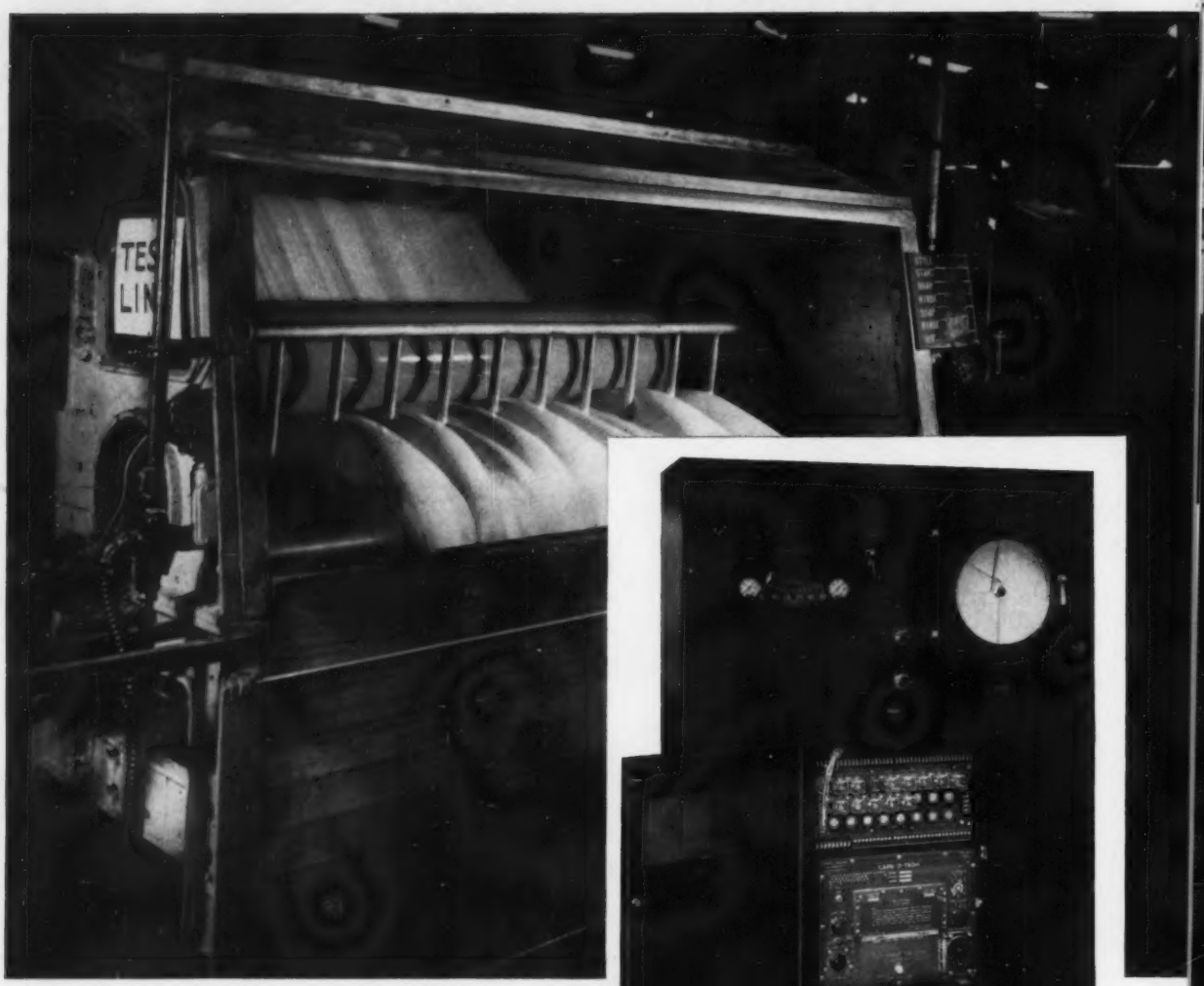
FACT: **Textured Filament Yarns and Spun Yarns are not the same.**

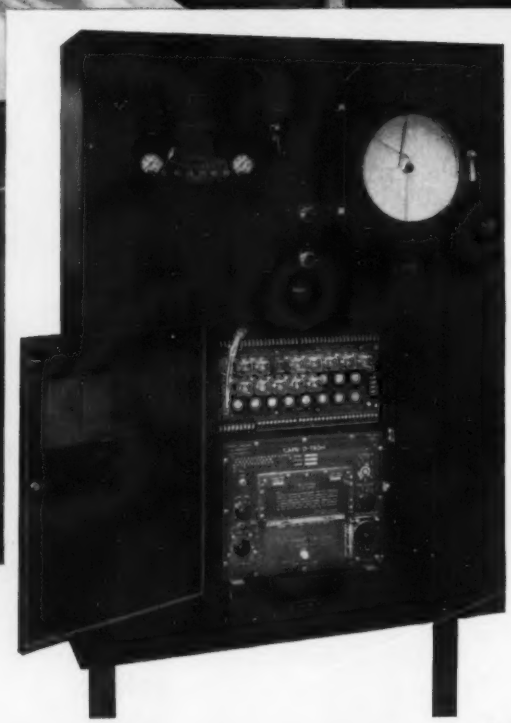
A few important changes are necessary for best results. We'll be happy to help you off to a fine start in adapting Textured Caprolan to your product lines. Our technical service, end-use development and fiber application laboratory staffs are always available to assist you. Call us any time.

Fiber Sales and Service Allied Chemical *National Aniline Division*

261 Madison Avenue, New York 16, N. Y.

Here's the secret  *of the*





Another example of Excelsior Mills leadership

Excelsior Mills manufacture quality woolen fabrics which are sold through Milliken Woolens, Inc., New York, to America's leading manufacturers of apparel for men, women and children. Excelsior Mills are noted for their efforts to seek the best production methods to assure top quality fabrics.

PUNCH YOUR SCHEDULE HERE...

Taylor Instruments

most advanced Batch Process Controller

TAYLOR ANNOUNCES THE NEW

CARD-O-TRON* PUNCH-CARD TIMER!

Punch the card for any batch process cycle—and that cycle can be repeated *exactly* at any time in the future by simply inserting that card in the CARD-O-TRON Timer. This revolutionary new CARD-O-TRON Timer eliminates the hazards of human error by making every phase of the process completely automatic. Saves repeated trial-and-error settings. Insures absolute uniformity of product. Saves operator time.

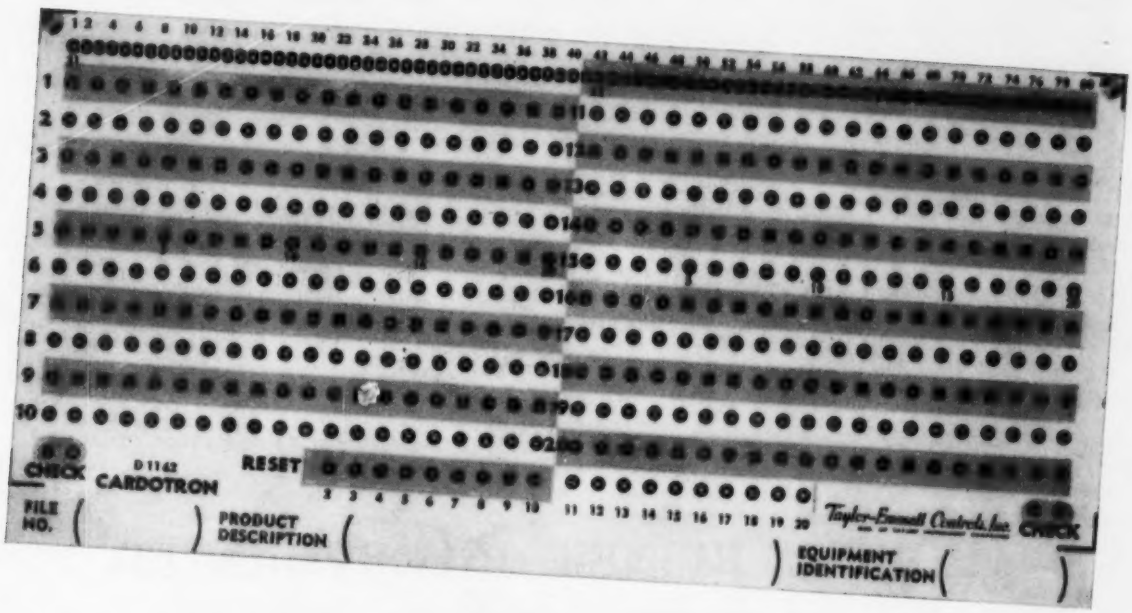
The Dolly Washer application shown here, at Excelsior Mills, Inc., Union Division, Union, S. Carolina, is one example of how the CARD-O-TRON Timer can 'automate' a process. The operator simply inserts the punched card and pushes the start button. Then the control system takes over and automatically completes the required cycle.

For instance, for one of the cycles used the timer: **1.** Starts Dolly Washer Motor. **2.** Fills Washer to predetermined level. **3.** Times and temperature-controls first rinse. **4.** Empties the Washer. **5.** Refills to predetermined level. **6.** Adds soap. **7.** Times and temperature-controls soaping cycle. **8.** Times and temperature-controls hot rinse. **9.** Times and temperature-controls cool rinse. **10.** Completes cycle and signals operator.

The CARD-O-TRON Punch-Card Timer is a product of our subsidiary, Taylor-Emmett Controls, Inc. It is sold and serviced by Taylor Instrument Companies, Rochester, New York, and Toronto, Ontario.

Call your Taylor Field Engineer to find out how you can put this remarkable new Timer to work on your batch processes.

*Trade-Mark



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THE WORLD-FAMOUS *RAMISCH*

TRICOT SCHREINER CALENDER

CAN BE USED FOR 5 DIFFERENT EFFECTS — CHANGE-OVERS REQUIRE ONLY 30 MINUTES!

SCHREINERING PLUS

- FLAT EMBOSSING
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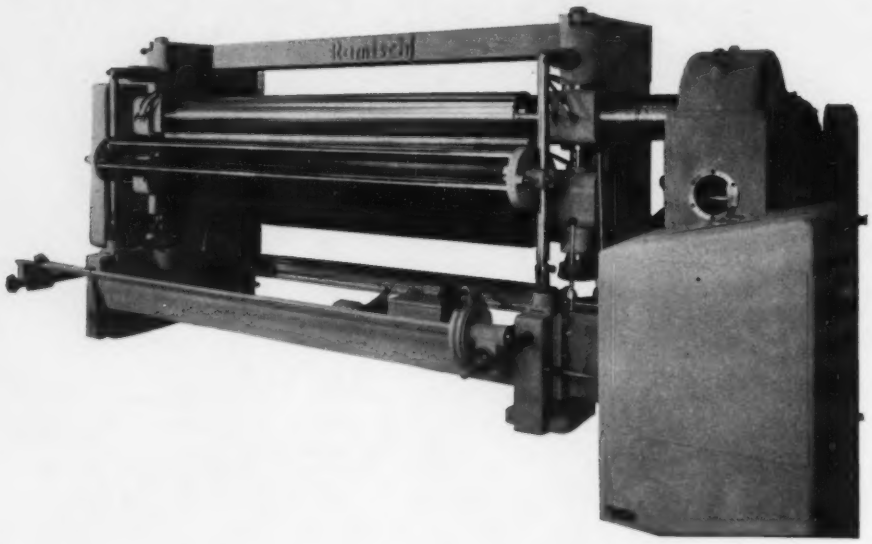

We have added this renowned equipment to our line because we believe it is unexcelled in construction, performance and range. Its multi-functional usefulness permits mill-owners a variety of finishes plus substantial savings. Briefly, some of its unique features are:

The two upper bowls for each of the various processes are combined into one single unit (paired bowls). Thus, you need no more than 30 minutes to detach the bowls from the calender frame and exchange them for another set without disturbing drive or drive gear. Since the bowls are combined in one unit, the "heart" of the calender remains intact insuring perfect synchronization of bearings and bowl shaft ends.

The Dr. Ramisch & Co. G.m.b.H. in West Germany is one of the most experienced firms in the calender line. Its many products cover the entire range and needs of the textile industry.

Reiner also offers machines for handling woven goods, for laboratory use, and special effects. **Complete descriptive literature, Schreinering and other sample swatches upon request.**

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KNITTING SECTION

Maintenance check list for SCP machines

Use it when machines are down awaiting pattern change

by Frank Paul
Exclusive

NEW PRACTICES are becoming more and more essential for pattern designers and pattern set-up men who change patterns and maintain Banner S.C.P. and S.C.O.P. knitting machines.

These practices consist of certain overhaul and adjustment methods that must be utilized to maintain continued satisfactory operation of the machinery and continued quality production of goods.

These new and additional methods have come about as a result of aging machinery—in the form of worn or flexed machine parts—and a variety of unconventional attachments which have been added to a conventional machine.

Generally speaking, the Banner S.C.P. and S.C.O.P. machines are well built, well engineered. They have been operating for a number of years now without appreciable wear, breakage, or machine flex—provided, of course, the proper maintenance and lubrication have been employed.

However, as any machine will eventually show some wear, these machines are becoming more and more the victims of age and of wear. Consequently, maladjustments are beginning to creep into them.

Maintenance on S.C.P. and S.C.O.P. machines now takes on new, added, and often revised, methods and responsibilities for the designer as well as for line fixers and design set-up personnel.

When the machines were new, or nearly so, the design set-up man could, and would, invariably take for granted that certain, or in some instances all, of the machine parts were not worn and were properly adjusted when changing from one pattern to another.

Consequently, it was not necessary for him to check many of the parts which now must invariably be checked and, in many instances, re-adjusted, re-aligned, and perhaps replaced, for satisfactory operation.

To try and remember all the parts and assemblies which now should be checked is difficult if not impossible, and we have found it very helpful to use a prepared

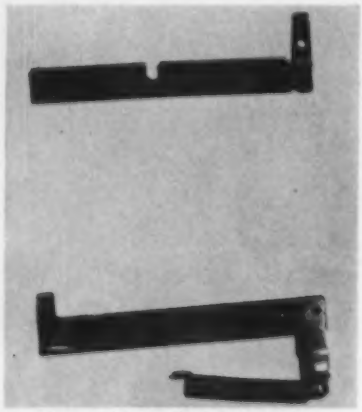
check-off listing of those items which should be examined when the machine is down in preparation for a change of design. The following serves as a guide:

1. REMOVE:
   Jacks
   Pattern disc
   Fabric take-up cover
   Fabric take-up
   Cylinder
   All yarn from the machine

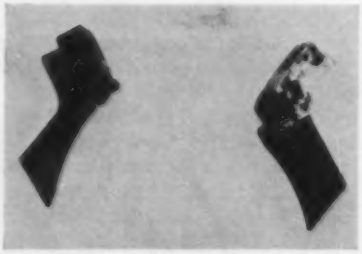
(Removing these parts will give a clear view and accessibility to many hidden parts and assemblies which normally would not be considered in the examination of a newer machine.)

2. CLEAN the machine of all lint, accumulated gears, cams, screws and parts which might have been deposited onto the machine.

(There is no reason to tolerate a mess of obsolete patterning parts, and odd stockings tied or laid on the machine. Now is a good time to clean up.)



A jack cam (selector) and plain sole cam (with spring). Once the cylinder is removed, these may readily be wear-checked.



Critical settings of the jack guard cams must be maintained, and these should be checked with each pattern change. While settings should be high enough to clear cams, they should not be high enough to raise jack above the extremity of lower jack leveling cams.

SEE PAGE 140

for description of a handy gauge for SCP fixers. Make it and simplify the setting, aligning, and installation of jack cam selectors, jack guard cams, jack master cams, needle support cams, plain sole cams, elastic jack cams, and jack and needle leveling cams.

3. TIGHTEN:
   a. Securing screws on control shafts and bracket
   b. Small main bearing securing screws
   c. Set screws in gears and sprockets along the operating cam lever gear shaft

4. SECURE FIRMLY AND PROPERLY MESH:
   a. The bevel gear
   b. The quadrant
   c. Control shaft bevel gears
   d. 104-tooth gear bracket
   e. Connecting rod studs *(Check for correct cylinder reciprocation before securing upper No. 4 stud.)*
   f. Auxiliary cam plates and brackets *(Also take away any brace links, rods, or blocks that might have been serving as temporary bracing between the cam plate bracket and the yarn change lever bracket.)*

5. REPLACE:
   a. Worn, cracked, or bent selector jack cams
   b. Damaged take-up pull and stop pawls
   c. Worn or broken take-up ratchets
   d. Excessively worn control levers
   e. Broken or bent plain sole cams
   f. Excessively worn master jack cams
   g. Worn sinker head cams
   h. Short jack control stop levers
   i. Damaged and worn yarn change lever retractor
   j. Worn out double move levers
   k. Tension springs which have been stretched beyond their elastic limits
   l. All missing or damaged yarn guide plates
   m. Warped take-up binder levers
   n. Worn bearings, pawls, and thrust levers.

6. ADJUST TO ORIGINAL SETTINGS:
   a. Master jack raising cams
   b. Plain sole cams for depth and height.
   c. Jack guard cams for depth and height with cut-away cylinder gauge
   d. Connecting links for proper depth of selector jack cams *(depth equals at least 1/16")*
   e. Adequate throw on ratchet pawl extension
   f. Position of control rolls *(These rolls must kick when all jack cam selectors are pulled out on a high cam on the control drums.)*

7. ALIGN:
   a. Yarn change levers in relation to bottom of yarn feed fingers
   b. Disc cam plungers in relation to contact cams and securing slots
   c. Chain pawls for throw and centering
   d. Rotation of main control drum. *(This should be 1/8 inch past disc cam plunger on fashion cams.)*
   e. Yarn feed fingers
   f. Collars and collar screws on yarn change lever wires
   g. Kicks on chain links

After these checks and proper corrections have been made, the design set-up man can continue with the desired pattern change with assurance that the machine will operate over a longer span of time with quality producing satisfaction.

Once the machine has been overhauled, the serial number and date of the overhaul should be filed in the designer's log.

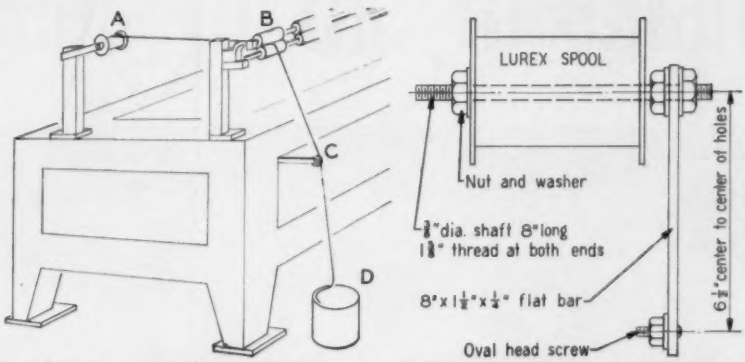
Using metallic yarn in outerwear?

Here are some new techniques for flat bed, tricot, and circular knitting

by Leon E. Seidel
Textile Fibers Department
The Dow Chemical Co.

Metallized polyester-type metallic yarn has been specific for general purpose knitting usage largely because it has favorable flexibility, strength, thinness, light weight, wet processability, and, of course, the ability to impart a metallic decoration to knitted textiles.

We do have several techniques of machine operations, some of which are quite new, and it is our purpose to describe these as they apply to knitted outerwear.



The free-end method for feeding Lurex to small-diameter circular and flat-bed knitting machines at speeds up to 100 ypm requires that the metallic yarn be rewound into a can. Above, left, a conventional twister has been modified to do the rewinding. "A" is a swing arm (shown in detail at right above) on which the yarn is positioned. The yarn is fed through the bite of a pair of rolls "B," down through a pigtail "C," which centers the yarn over the can "D." Speed of "B" may be up to 38 ypm at a tension (between "A" and "B") of 5 to 10 grams. Best results are obtained when yarn is kept to a depth of 6" to 8" in the can, and distance "B" to "D" is at least 4'.

FLAT BED KNITTING

Perhaps the yarn package is the most sensitive area connected with flat bed knitting of both the "V" bed and Cotton's patent type. This is due essentially to the incompatibility of the regular reversal in direction of yarn carriers with the standard spool put-up for metallic yarns.

Three techniques have proved to offer an excellent means of overcoming this problem:

Hollow Spindle Twisting. This operation permits wrapping a yarn around a core. When the metallic yarn is the core, it permits it to lie flat; in such cases the one or two ends wrapped around the core is usually a fine yarn which will not rob the metallic of its brilliance. This type of yarn is probably most compatible with fine full-fashioned work.

A newer concept involves the use of a relatively coarse non-metallic yarn in the core, one overwrap of Lurex, and in some cases a locking overwrap in the opposite direction using the same yarn as is in the core. This technique builds up roundness and diameter. This type of yarn is especially suitable for medium to coarse flat bed work of both the "V" bed and full-fashioned types. It offers the advantage of using the same yarn as would normally be used for the particular fabric and merely decorates it with metallic yarn.

In both examples, yarns so produced may be wound onto and properly run from standard 30° knitting cones.

Conventional Twisting. Another more standard method of preparing yarn for this work is conventional twisting onto cones. Novelty yarns so manufactured offer quite a styling potential.

Free-End Feed. A technique which is fresh out of evaluation is the so-called free-end feed method. While it has been used for uncovered rubber knitting, it took some modification for metallic yarn work. This set-up permits tensionless knitting and eliminates the spool and the need to combine by twisting operations.

Essentially spooled metallic yarn is coiled into a circular container and fed directly to the flat bed machine. This is particularly important where an uncombined yarn is to be flat bed knitted: It just isn't practical to run on this equipment from spools.

The free-end metallic yarn feed is particularly suitable with stretch nylon for the currently popular full-fashioned leotard work.

TRICOT

Techniques for the practical and profitable tricot knitting of metallized polyester types of metallic yarn can perhaps best be considered from two standpoints.

Yarn Selection is critical particularly as regards width. While the 1/100" width is known to be capable of drawing a jersey stitch, optimum efficiency in knitting on 28-gauge equipment is done with our 1/128" Lurex. Use of this fine width also provides good compatibility with the fine range of filament yarns normally used.

Where lay-in decoration is de-

From a paper presented at a meeting of the National Knitted Outerwear Association.

check-off listing of those items which should be examined when the machine is down in preparation for a change of design. The following serves as a guide:

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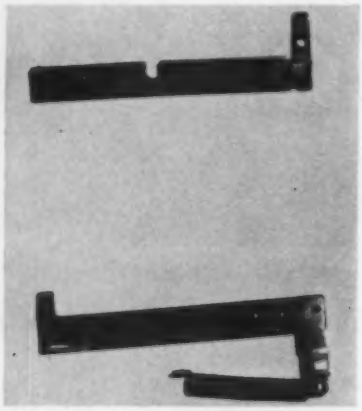

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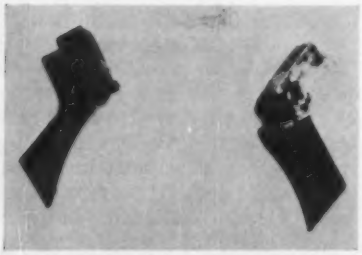

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   b. Small main bearing securing screws
   c. Set screws in gears and sprockets along the operating cam lever gear shaft

4. SECURE FIRMLY AND PROPERLY MESH:
   a. The bevel gear
   b. The quadrant
   c. Control shaft bevel gears
   d. 104-tooth gear bracket
   e. Connecting rod studs *(Check for correct cylinder reciprocation before securing upper No. 4 stud.)*
   f. Auxiliary cam plates and brackets *(Also take away any brace links, rods, or blocks that might have been serving as temporary bracing between the cam plate bracket and the yarn change lever bracket.)*

5. REPLACE:
   a. Worn, cracked, or bent selector jack cams
   b. Damaged take-up pull and stop pawls
   c. Worn or broken take-up ratchets
   d. Excessively worn control levers
   e. Broken or bent plain sole cams
   f. Excessively worn master jack cams
   g. Worn sinker head cams
   h. Short jack control stop levers
   i. Damaged and worn yarn change lever retractor
   j. Worn out double move levers
   k. Tension springs which have been stretched beyond their elastic limits
   l. All missing or damaged yarn guide plates
   m. Warped take-up binder levers
   n. Worn bearings, pawls, and thrust levers.

6. ADJUST TO ORIGINAL SETTINGS:
   a. Master jack raising cams
   b. Plain sole cams for depth and height.
   c. Jack guard cams for depth and height with cut-away cylinder gauge
   d. Connecting links for proper depth of selector jack cams *(depth equals at least 1/16")*
   e. Adequate throw on ratchet pawl extension
   f. Position of control rolls *(These rolls must kick when all jack cam selectors are pulled out on a high cam on the control drums.)*

7. ALIGN:
   a. Yarn change levers in relation to bottom of yarn feed fingers
   b. Disc cam plungers in relation to contact cams and securing slots
   c. Chain pawls for throw and centering
   d. Rotation of main control drum. *(This should be ⅛ inch past disc cam plunger on fashion cams.)*
   e. Yarn feed fingers
   f. Collars and collar screws on yarn change lever wires
   g. Kicks on chain links

After these checks and proper corrections have been made, the design set-up man can continue with the desired pattern change with assurance that the machine will operate over a longer span of time with quality producing satisfaction.

Once the machine has been overhauled, the serial number and date of the overhaul should be filed in the designer's log.

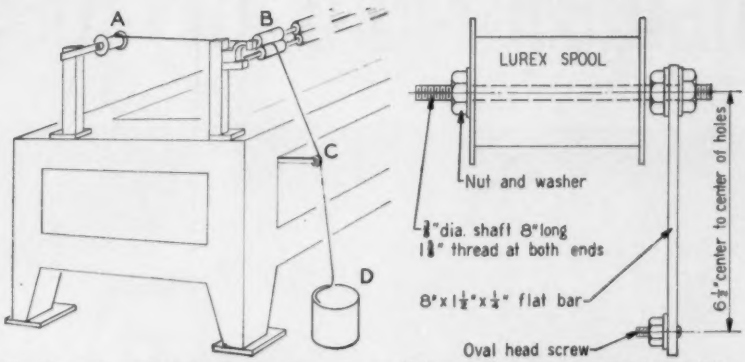
Using metallic yarn in outerwear?

Here are some new techniques for flat bed, tricot, and circular knitting

by Leon E. Seidel
Textile Fibers Department
The Dow Chemical Co.

Metallized polyester-type metallic yarn has been specific for general purpose knitting usage largely because it has favorable flexibility, strength, thinness, light weight, wet processability, and, of course, the ability to impart a metallic decoration to knitted textiles.

We do have several techniques of machine operations, some of which are quite new, and it is our purpose to describe these as they apply to knitted outerwear.



The free-end method for feeding Lurex to small-diameter circular and flat-bed knitting machines at speeds up to 100 ypm requires that the metallic yarn be rewound into a can. Above, left, a conventional twister has been modified to do the rewinding. "A" is a swing arm (shown in detail at right above) on which the yarn is positioned. The yarn is fed through the bite of a pair of rolls "B," down through a pigtail "C," which centers the yarn over the can "D." Speed of "B" may be up to 38 ypm at a tension (between "A" and "B") of 5 to 10 grams. Best results are obtained when yarn is kept to a depth of 6" to 8" in the can, and distance "B" to "D" is at least 4'.

FLAT BED KNITTING

Perhaps the yarn package is the most sensitive area connected with flat bed knitting of both the "V" bed and Cotton's patent type. This is due essentially to the incompatibility of the regular reversal in direction of yarn carriers with the standard spool put-up for metallic yarns.

Three techniques have proved to offer an excellent means of overcoming this problem:

Hollow Spindle Twisting. This operation permits wrapping a yarn around a core. When the metallic yarn is the core, it permits it to lie flat; in such cases the one or two ends wrapped around the core is usually a fine yarn which will not rob the metallic of its brilliance. This type of yarn is probably most compatible with fine full-fashioned work.

A newer concept involves the use of a relatively coarse non-metallic yarn in the core, one overwrap of Lurex, and in some cases a locking overwrap in the opposite direction using the same yarn as is in the core. This technique builds up roundness and diameter. This type of yarn is especially suitable for medium to coarse flat bed work of both the "V" bed and full-fashioned types. It offers the advantage of using the same yarn as would normally be used for the particular fabric and merely decorates it with metallic yarn.

In both examples, yarns so produced may be wound onto and properly run from standard 30° knitting cones.

Conventional Twisting. Another more standard method of preparing yarn for this work is conventional twisting onto cones. Novelty yarns so manufactured offer quite a styling potential.

Free-End Feed. A technique which is fresh out of evaluation is the so-called free-end feed method. While it has been used for uncovered rubber knitting, it took some modification for metallic yarn work. This set-up permits tensionless knitting and eliminates the spool and the need to combine by twisting operations.

Essentially spooled metallic yarn is coiled into a circular container and fed directly to the flat bed machine. This is particularly important where an uncombined yarn is to be flat bed knitted: It just isn't practical to run on this equipment from spools.

The free-end metallic yarn feed is particularly suitable with stretch nylon for the currently popular full-fashioned leotard work.

TRICOT

Techniques for the practical and profitable tricot knitting of metallized polyester types of metallic yarn can perhaps best be considered from two standpoints.

Yarn Selection is critical particularly as regards width. While the 1/100″ width is known to be capable of drawing a jersey stitch, optimum efficiency in knitting on 28-gauge equipment is done with our 1/128″ Lurex. Use of this fine width also provides good compatibility with the fine range of filament yarns normally used.

Where lay-in decoration is de-

From a paper presented at a meeting of the National Knitted Outerwear Association.

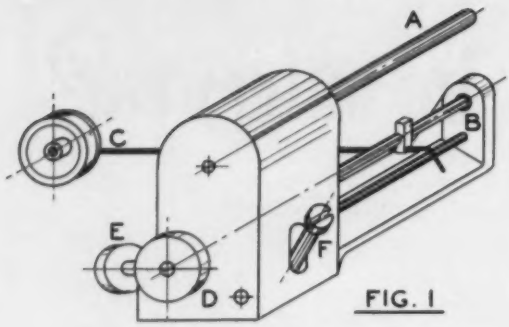


FIG. 1

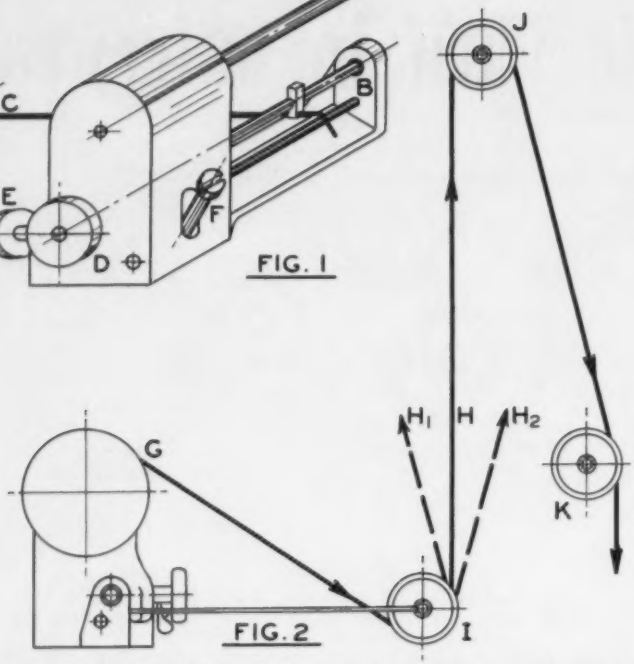


FIG. 2

The Lawson spool let-off is designed for installation on knitting machines, to maintain a uniform tension with yarns which must be spooled. In Fig. 1, "A" is a spool spindle mounted in a shielded bearing having a quick-release nut. The spindle is braked through an eccentric system activated by brake arm "B" through yarn arm "C." When yarn arm is in operating position (as shown), spindle rotates freely. When unrolling is interrupted, yarn arm drops, activating brake and stopping spindle. When spindle is stopped, tension is maintained on yarn. When unrolling begins, yarn arm raises again to operating position, releasing brake on spindle. Fig. 2 shows mounting and threading method. Spool is at "G," straight run "H" is preferable to "H_1" or "H_2." Pulleys "J" and "K" are used when a straight pull-away is not possible. In this case, the distance between "I" and "J" should be 2' to 3' to prevent unfavorable yarn angles.

sired, the 1/64" width serves adequately as is the case in Raschel. In all cases, the #150 gauge has been found to be most desirable.

Warping. Here we can follow two courses. If the total number of ends required is not too high (specifically not in excess of about one per 1½ inches), a creel may be positioned behind the machine and metallic yarn wrapped around the beam twice to provide tension.

In most cases, however, a metallic yarn beam is most appropriate. Preparation of beams is perhaps best performed on equipment designed or modified to run crepe yarns: a "V" creel which will accommodate spooled yarn and which is run at reduced speeds.

Beams should be as light as possible; except in cases where positive beam drives are available on knitting machines, a flangeless, wood or cardboard beam is recommended as it is with most metallic yarn warping. This method usually calls for the use of sheets of beaming paper inserts at intermittent intervals through-out the warp.

CIRCULAR KNITTING

Where coned yarn is desired, as in the case on machines with many feeds and/or elevated speeds, the hollow spindle and conventional twisting techniques discussed for flat bed knitting are quite appropriate.

Where spooled metallic yarns are to be run uncombined so as to form plated, knitted-in-and-floated, or layed-in-and-floated effects, a host of techniques have been developed. These range from mounting the spool on a simple yarn rack bracket above and close to the feed, to the well engineered Lawson unrolling attachment.

The latter unit provides a ball bearing spindle mount for the spool with controlled starting tension, a positive braking action to prevent over-rolling at the stop, and an electrical stop motion. In circular work the 100 and 150 gauge yarns are appropriate, with the 100 gauge yielding maximum softness, lightness, and bendability.

Mill makes embroidered fabrics in one operation on tricot machines

■ A LESS expensive and better method of producing embroidered fabrics has been invented and patented, according to an announcement by Associated Mills of New York with a plant at Bergenfield, N. J. The fabrics are made on a tricot machine and are continuously embroidered simultaneously—that is, from the yarn to the embroidered fabric in one operation.

Now being marketed under the trademark "Embroiderique" in many different designs, the fabrics are said to offer some exceptional advantages:

1. They are delivered in full pieces of 100 yards with the embroidery completely covering the fabric out to both selvages.

2. They avoid puckering.

3. Perfect matching between the embroidery and the fabric are now possible as they can be dyed together.

4. They are available in any color combinations. The embroidery can also follow the stripe or pattern of the background cloth.

The fabrics are now being marketed in heavy weights for robe and dress manufacturers; lightweights and sheers for lingerie, blouses, and girls' dresses.

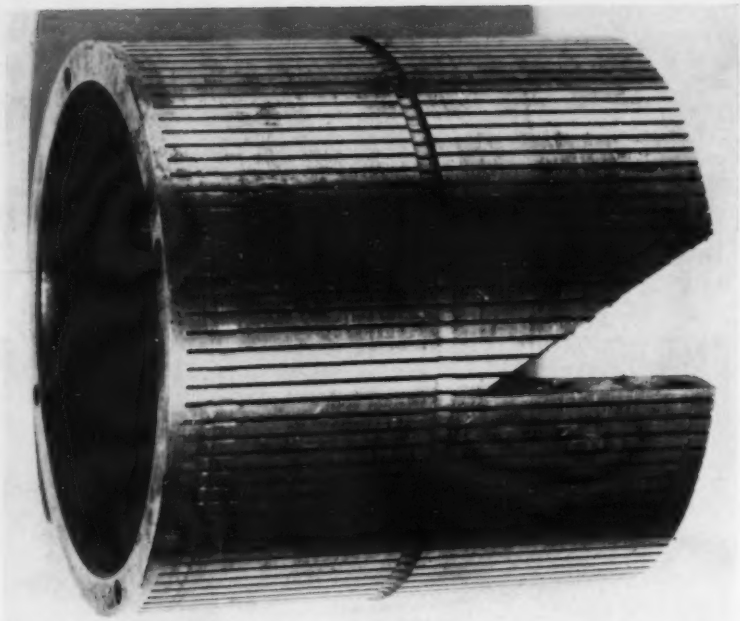
Leave speeds to the foreman

Bad work increases when machines run too fast

Trim along this line to post on bulletin board in knitting department

Gauge simplifies SCP machine adjustment

by Winston Shewmake
Exclusive



VARIOUS parts on SCP and SCOP knitting machines have very close running tolerances. Some of these parts are readily accessible and adjustment is simple and easy, while others are practically enclosed or difficult to see and adjust or align.

Usually the most critical parts on a knitting machine are those which make near contact with the knitting cylinder, such as the jack cam selectors, jack guard cams, jack master cams, needle support cams, plain sole cams, elastic jack cams, and jack and needle leveling cams.

These parts are only visible or accessible when the knitting cylinder is removed; however, adjustment must be made with the cylinder—or at least a part of a cylinder—in the machine.

In our plant we have found a very useful gauge for setting, aligning, and installing all these parts. It consists of an old cylinder which has been cut down to a level such that it does not obscure any of the parts or cams being set, as a full cylinder would. As a further aid, a slot or window (see photo) was cut to aid in aligning cams even lower on the cylinder. By using the cut-away cylinder gauge and inserting a test pattern jack into one of the slots, all the critical settings may be made both for depth and height.

After settings are made, remove the cut-away cylinder gauge and insert a standard cylinder into the machine. The settings, having already been determined, will align perfectly with the standard cylinder, and the machine is ready for the patterning parts and precision operation.

Seamless hose mills urged to use automation, cooperate

■ SOME constructive suggestions were recently offered to a group of hosiery manufacturers by Morris Speizman, president of the Morris Speizman group of companies.

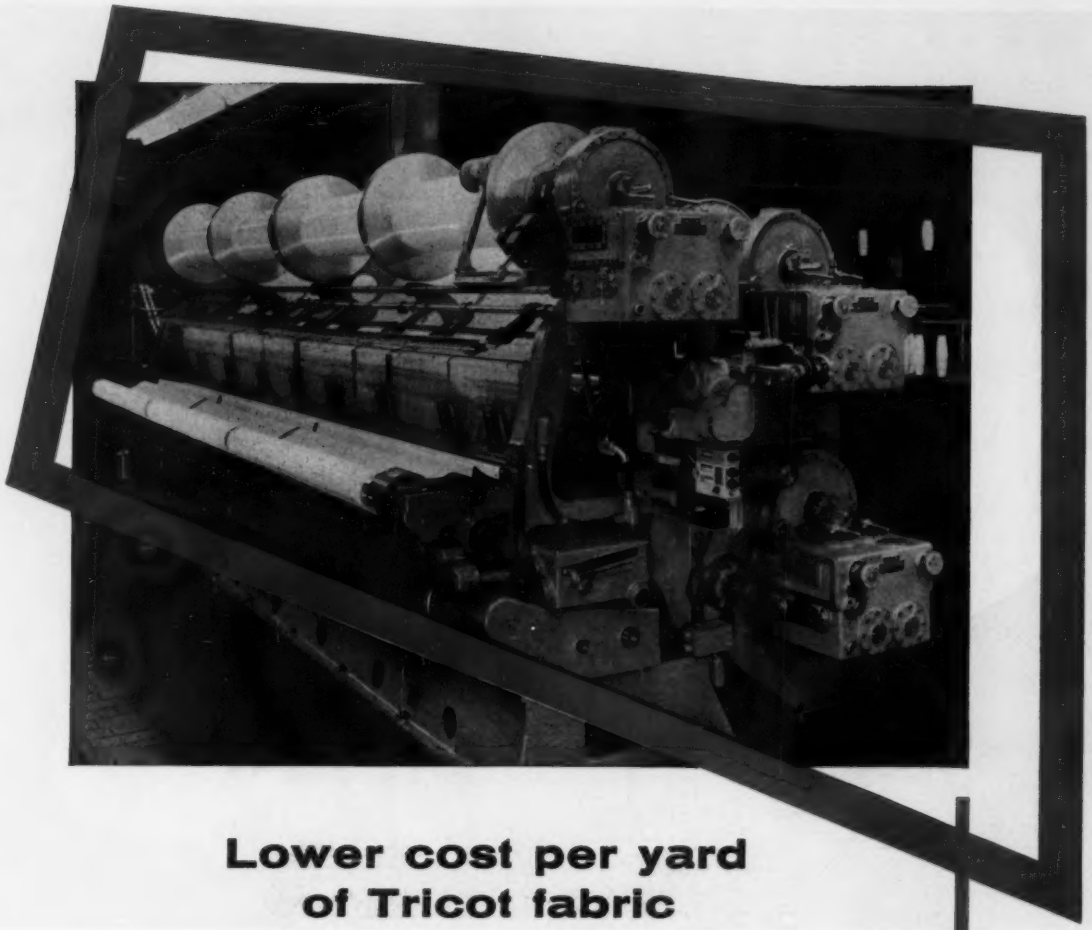
Speaking before the Catawba Valley Hosiery Club in Hickory, N. C., Mr. Speizman said the manufacturers of men's and boys' and misses' and children's hosiery could become more prosperous by increasing automation, establishing identification, and cooperating as a group.

Mr. Speizman pointed out that there has been no radical change in the basic methods of hosiery manufacture in more than 50 years. He said that more than 62% of machines being used in the Catawba Valley for manufacturing men's and boys' and misses' and children's hosiery are more than 25 years old. Only 13% of such machinery is less than 10 years old. Patterns remain in use that were designed 35 to 40 years ago, he said.

Automation, refining processes, and eliminating excessive handling of the product would increase production efficiency and, consequently, profits, Mr. Speizman said.

Explaining that many nationally known products are sold at lower mark-ups than is necessary for the hosiery industry, Mr. Speizman pointed out that such products are pre-sold for the retailer through national advertising. He suggested that it might be profitable for smaller hosiery manufacturers to band together and market their products under cooperative names, thereby gaining more identification for brand names.

The National Association of Hosiery Manufacturers provides the best means for cooperation among both small and large manufacturers, according to Mr. Speizman.



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New Acme Steel Strapping Tool speeds baling

Acme Idea Man E. S. Lumpkin aids the Belle-Vue plant and many other companies with materials handling problems.

BELLE-VUE MILLS DIV., WELLMAN OPERATING CORP., HILLSBORO, N. C., with the help of their Acme Idea Man, sought a way to make baling their fabrics faster and easier. (Idea No. S6-10) The new B-5 Stretcher proved a good answer. The bales are still processed in the same way—enclosed with asphalt impregnated paper, loosely encircled with steel strapping, and then compressed. But then the B-5 takes over, and makes the tensioning operation much easier and noticeably faster. Using this method, one man produces about 40 bales a day—all strong and secure.

Workers like the new B-5 Stretcher, too. This light, strong tensioning tool can be used in most any application and works equally well in any operating position.

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HOW OTHERS MANAGE

How bleaching and spooling affect yarn strength

THE EDITORS:

During a meeting of the operating executives in one mill there was a lively discussion in regard to the changes in tensile strength brought about by bleaching and spooling cotton thread for sewing. It was agreed that it would be interesting and informative if the testing laboratory director would have a special test made and turn in his findings at the next meeting.

To have continuity in the testing, a grey skein of each of the numbers to be checked was singled out. It was examined for appearance and tested for twist and size. When these items were considered normal, the strength testing was done on each skein, after, of course, the material had remained in the lab for conditioning for twenty-four hours.

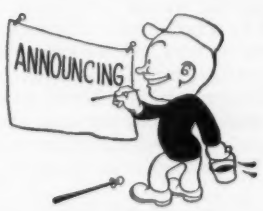
To each of the grey skeins a special tally for test identification was attached, in addition to the usual identification tally.

The skeins were then forwarded to the bleachery and put through

TABLE 1

Effect of Bleaching and Spooling on Cotton Sewing Thread Tensile Strength

	Bleaching			Spooling			
Yarn count	Grey stock strength (lb)	Black stock strength (lb)	Gain due to bleaching (%)	Strength after spooling (lb)	Loss due to spooling (%)	Strength change during processing (%)	Gain or loss
8	6.11	6.45	5.56	6.33	1.86	3.60	gain
16	4.97	5.06	1.81	5.01	0.99	0.01	gain
24	3.93	4.07	3.56	3.94	3.19	—	—
40	2.90	2.98	2.76	2.82	5.37	2.76	loss
50	2.19	2.27	3.65	2.15	5.28	1.83	loss



A Brand New Contest

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Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediate-up upon acceptance, and the $100 award will be made to the winner as soon as all entries are judged.

The contest rules are simple:

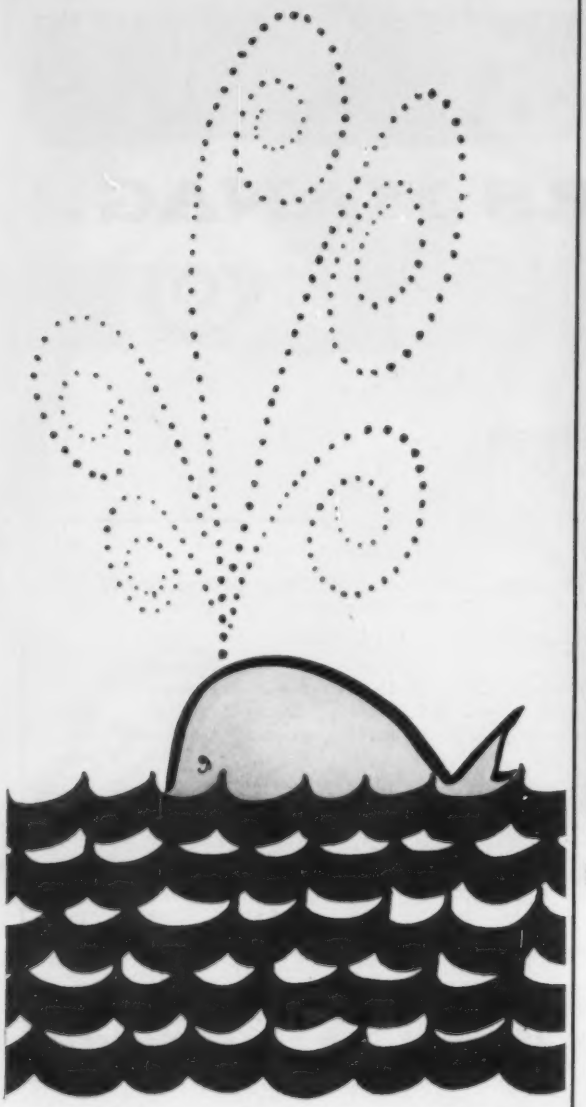
► All contributions must be postmarked not later than midnight, December 15, 1959.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

► Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.



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the bleaching process in their respective regular lots so that the bleaching would be done in the usual manner.

After bleaching, the test skeins were conditioned for 24 hours in the laboratory and then subjected to the breaking strength process. Following this, the skeins were sent to the spooling section and put through the regular spooling operation. Attention was given to ascertaining that the spindles on which the spooling was done were representative of average conditions—neither too good nor too bad. The spools were then exposed in the laboratory for twenty-four hours before testing.

Table 1 shows the changes that transpired. Each number of thread increased in strength due to bleaching, although the increase was somewhat erratic.

The loss due to spooling the white stock was also variable, but showed a greater loss in the finer threads.

Glancing at the column headed spool strength vs. grey stock strength, one notes that the two coarser numbers gained strength, again a variable amount, whereas the two finer numbers suffered a loss—also to a different degree. The medium number showed practically no change.

The figures were discussed at the next meeting of the executives and it was decided to coarsen slightly the finer numbers, 40 and 50, so that the strength of the finished spooled goods would be equal the grey strength as shown in Table 1.

CONTRIBUTOR NO. 1155

Take good care of your screwdrivers

Grind the worn or damaged screwdriver blade so its sides are parallel. If you are very good with the grinding wheel, you might even hollow grind the blade slightly. But by all means, do not shape the sides to taper toward the point, and do not heat the blade until it is discolored.

A little sensible hammering will not hurt it, nor will sensible prying damage it. But do not expect the tool to double for a cold chisel or a pinch bar and still be in condition to turn screws.

The proper unit is available for every end use—watch repairing, electrical installation and repair, automotive body work (much of this is done with the popular Phillips model), or just plain textile "fixing." Choose the correct one and respect it accordingly.

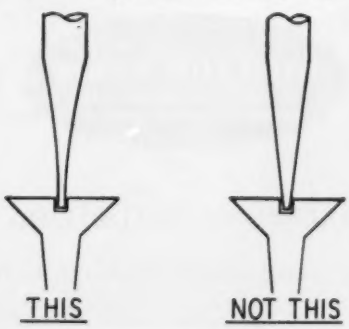
Don't use pliers on the shank to assist in drifting stubborn screws. For such heavy duty get a square-shank type and use a wrench with it. Pliers have a way of scarring the softer metals and slipping on the harder ones.

If light hammering is often in order, select a model with the shank running all the way through the handle, or choose a plastic handle that will take the abuse.

Select the proper tool for the job

Use the correct size. Generally the length is proportional to the size of the screwslot it is designed to fit, and blade length, etc., are all made accordingly. There are exceptions, of course.

A final precaution: Keep regular screwdrivers away from high-amperage electricity. It is easy to draw the blade temper, and it is difficult to find a person skilled enough to restore it properly—assuming, of course, that the operative lives to need the tool.



Watch for the second in this series of staff-prepared items devoted to the care of hand tools used around textile plants.—The Editors.

How is CSP related to weaving?

THE EDITORS:

I have this problem which I am presenting to TI's readers, hoping that from their discussions I shall gain a solution.

From my weaving experience I find that warp yarns do not work well unless the count strength product (CSP) is at a specific level. Sizing, no doubt, adds to the yarn strength slightly, but if the CSP initially is not adequate there cannot be considerable improvement by mere sizing.

Frequent warp breakage was very often attributed to bad loom tuning, and many a time the masters point to the take-up adjustment or reduction of weight on the back beam. Ultimately, in trying all these, the desired structure of cloths is not obtained.

The CSP seems to have an important bearing on the number of ends and picks per inch and the texture of cloth being woven. The same warp yarn which formerly gave lots of trouble and loss of production performed comparatively better in another quality wherein there were more ends per inch: there were breakages of warp threads but, as stated, comparatively there were fewer.

Again the same warp gave too many warp breakages when it was worked in twill weave structure. Here again reduction in picks per inch was found to be better.

While weaving with medium counts, say 25s to 40s, unless the CSP is above 2000, satisfactory working could not be achieved. Regarding yarns where this CSP was low, the spinner could help by in-

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creasing the turns per inch in the yarn, but his objection was that in order to give the required CSP by increasing the turns per inch, the spinning production would be affected adversely.

Furthermore, we have some fine double yarn varieties including voile yarns. Particularly in voile yarns, less-doubling-turns yarn was stronger than the more-doubling-turns yarn, and to get real voile feel the latter yarn was preferred. The CSP of this more-doubling-twist yarns (Z on Z) was far below 2000 and on looms during weaving warp breakages were considerable.

Even the filling or weft yarns were causing breakages; so I wish to know, for good weaving, whether this CSP of the yarns can be a good guide and if so can we establish on broad lines some useful standards and tables of minimum count strength product incorporating factors such as number of ends and picks per inch, weave texture, type and speed of loom.

Similar is the case with the weft or filling yarns which are generally spun from lower grade mixings and with slightly less (fewer turns per inch. Normally the lea tests of weft yarns are not taken (except the count adjustments) during regular spinning tests. I find by giving additional tension in the shuttle, either by means of nylon bristles or fur lining, the weft can be tensioned and the cloth effect can be improved. But in so doing, there were more chances of weft breakage because of low CSP. So for weft yarns also, can we think of such minimum standards?

CONTRIBUTOR NO. 1172
(India)

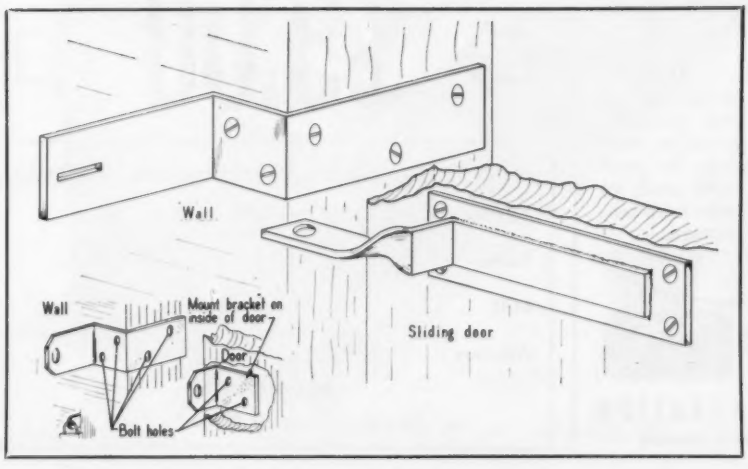
Special door hasp makes illicit entry difficult

THE EDITORS:

Here is a way of fastening back doors to the plant and out-buildings without leaving locks on the outside to rust or to be pried off. The locking device is a simple two-piece hasp that can be made in a number of shapes to fit any number of wall-and-sliding-door combinations. In this instance, the wall bracket is made so that at least two bolts are inside the building and completely out of reach of a person on the outside. When the mating parts are slipped together a bolt is dropped into the hole of the door bracket to lock the two together.

CONTRIBUTOR NO. 1167
(Canada)

(We are taking the liberty of inserting another variation of this hasp, in the lower left corner of the illustration, this one being made to receive a lock. Those who do not have special problems in plant locking will find hasps of this order commercially available. —The Editors)



Seals steam line openings in walls

A neoprene-coated nylon fabric stands the temperatures and stresses incidental to sealing wall openings through which pass steam and water lines. Weatherproofing such openings presents problems in sealing out weather with materials that are flexible (the pipes may move as much as three inches as they expand and contract with temperature changes), strong, and durable.

The wall openings in the steam-electric generating plant pictured here were closed with the special fabric by clamping it to the pipes and walls with bands, flanges, and strips. The temperatures at the points where the fabric contacts the insulated pipes range from 50 F to 150 F.

REEVES BROS., INC.

Add these to list of finishing defects

THE EDITORS:

I have read with interest Efriam A. Cohen's article, *Grading the Finished Fabric*, in which he outlines a method for determining grade of fabric and lists defects by weaving, dyeing, and finishing. Of course, he does not state what

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SODIUM HYDROSULFITE TC HYDRO CONCENTRATED

TC-HYDRO is a dry, white, free flowing, crystalline powder of uniform size and structure. It is dust free, assuring highest stability and uniformity.

AS MINERS OF SULFUR BEARING ORES—We have utilized our basic position in Sulfur Chemistry to produce another product of highest purity and quality for use in the Textile Industry.

WHEN YOU NEED IT—Our production is located in the heart of the Southern Textile Industry which permits us to render overnight delivery service to most Southern points — also small lot shipments are available from centrally located warehouses.

Phone, wire or write for literature and test samples if desired.

TC

TENNESSEE CORPORATION
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For mills with a future!...the frame of the future

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SPINNING FRAME

IN the new PIEDMONT, Whitin offers you a Spinning Frame which is not only smart in appearance, not only advanced in design — but which is also foremost in economy of operation. There are PIEDMONT benefits in every phase of your spinning operation.

PRODUCTION: Increases in front roll speed of 25 to 30% more than *average* production — and up to 15% more than *top current* levels.

PERFORMANCE: Simple construction with "built-in" efficiencies — straight line spinning plus SUPER-DRAFT for quality yarn — large "control-wound" packages for reduced spooling costs.

MAINTENANCE: Lowest cleaning costs possible thru streamlining — open construction — ball bearing assemblies — unique single-spindle drive — elimination of cylinders and tapes.

In every respect, the Frame of the future for mills with a future!

Features 27" width, traverses up to 12", enclosed single spindle drive, simplified head end and gearing, new builder, integral waste removal and motor cooling unit.

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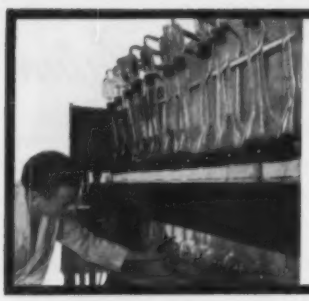
CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



What You Should Know About STARCH *

A COMMON SENSE APPROACH TO SLASHING

In most of the previous technical articles we have presented, the type and quality of the starch sizing material were described. Emphasis has been on the various physical characteristics of starch — such as the pH, viscosity, stability, and tendency to congeal or the lack of tendency to congeal.

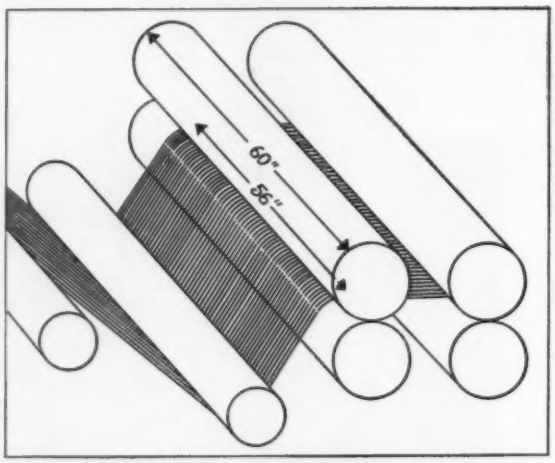
It is also important to know the compatibility of starch with various softeners or waxes. In the case of sizing synthetic fibers, it is important to know how easily the sizing material can be removed. All the above information is important. However, the best possible sizing materials can be wasted if they are not properly applied to the yarn sheet.

One of the most common mistakes is to crowd too much yarn across the face of the squeeze roll. It is generally acknowledged that if a single thread of yarn could be sized by itself so that it would not touch threads adjacent to it, this would approach perfect sizing conditions.

In other words, it is desirable that the fibers from one thread do not tangle with the fibers from another thread. When these threads are dried and finally leased on the front of a slasher, any fibers which have tangled will be torn apart and will appear to be fuzzy. This condition will tend to cause shedding and clinging in the loom. Fuzz balls will develop and seconds will be made.

From a practical standpoint, it is impossible to lay all of the little fibers. Even the squeeze roll has a tendency to lift up some of the fibers under the best of conditions. However, common sense dictates that the further apart the threads are in the size box, the less tendency the fibers will have to tangle and to mat.

This means that sets of yarn containing a high number of ends should be sized in more than one size box. For instance, the diameter of #30 yarn is .007 inches. Suppose the face of the squeeze roll is 60 inches which is standard with 54" section beams. About 2" on each side of the roll is not used. This leaves 56" for the yarn to be spread across. Dividing .007 into 56" shows that 8000 ends can be laid side by side. But we have already agreed that the threads should not be too close or the fibers will tangle. A good practical rule is to limit the number of ends per size box to about half of the theoretical number as calculated above.



Four-thousand ends (#30 yarn) should go into size box with 60-inch squeeze roll. This leaves space between each end equal to diameter of yarn.

Depending on the yarn size, therefore, about 4000 ends should go into a box with a 60 inch squeeze roll. Wider rolls will, of course, accommodate a greater number of ends.

Common sense must be used when a decision is made as to how many ends can be run. Simple mathematics, however, can give you a good indication. The number of squeeze rolls in a box plays no part in the decision as to how crowded the threads shall be; neither does the number of immersion rolls.

* ONE OF A SERIES OF ARTICLES. FOR THE COMPLETE SET AND FOR OUR CONTINUING TECHNICAL DATA SERVICE, WRITE WITHOUT OBLIGATION TO:

The Hubinger Company

HUBINGER 78 YEARS KEOKUK, IOWA

601 Main Street
KEOKUK, IOWA

Sales Representatives: IRA L. GRIFFIN AND SONS • Charlotte, N.C.

type of fabric or fabrics are being inspected, whether wool, cotton, blends, etc. But I am amazed that he listed only four dyeing defects and four finishing defects.

I can only say that the plant where such a work sheet is used is a very efficient one. There the seconds should be very low. Let me give a partial list of defects in dyeing and finishing cotton fabrics:

Dyeing

Side-to-side shading
Streaks
Stains (of various origins)
Spots (of various origins—can be oil spots, grease spots, etc.)
Color spots
Blotchy dyeing (caused by poor preparation of fabric in bleaching)
Bruise marks
Off shade (dyed shade changes upon finishing)
Back-to-face shading (more critical in certain colors)

Finishing

Crooked cloth (more a problem with printed fabrics)
Double edges
Broken selvages
Creases
Oil spots, grease stains
Poor hand (desired finished hand not attained)
Uneven width (can be caused by many factors)
Poor white (can be caused by poor preparation in bleaching)
Shading of "blueing" on long runs

Of course, some of those mentioned above are included in Mr. Cohen's article, and it would be impossible to list on a sheet all of the defects that are encountered in dyeing and finishing fabrics. Nevertheless, it seems to me that some of the important ones were left out.

CONTRIBUTOR No. 1161

Chart indicates proper battery charge rate

A handy chart provides a simple method of determining the proper charge rate for any lead-acid motive power battery being charged by motor-generator equipment.

For use on electric industrial trucks and mine vehicles, the chart applies to lead-acid batteries of any number or size of cells (in any state of charge) being charged on an 8-hour basis. It can be used to determine the proper rate with either shunt-wound or compound-wound generator charger equipment.

The chart can help users make sure that their batteries are being charged to full operating capacity. It also can help them avoid damaging batteries by high charging rates. To use the chart, proceed in this manner:

1. Place battery on charge for approximately one hour, or until machine is warm.

2. With battery on charge, use voltmeter to determine voltage at battery terminals.

3. Divide terminal voltage by number of cells (see battery nameplate or count the cells).

4. Mark volts per cell on diagonal line of chart.

5. Read down to corresponding point on ampere scale.

6. Multiply this ampere value by 6-hour ampere-hour capacity of battery (found on battery nameplate). Result is proper rate of charge in amperes at that particular state of charge of the battery.

7a. *With shunt-wound equipment* (generally used for single-circuit chargers), adjust generator field rheostat, usually found under dome of vertical generator or in control cabinet, to produce this proper rate of current.

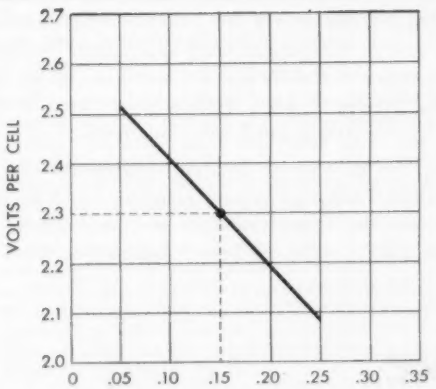
7b. *With compound - wound equipment* (generally multiple-circuit chargers), adjust heavy series resistor between generator bus and battery to a value that will produce the proper current, first making sure that the generator is set at the total voltage indicated in the table for the number of cells of the battery.

8. Approximately 30 minutes after making adjustment (when current has stabilized), check it by repeating steps 2 through 6 and readjust if necessary.

An example is a good training aid, so: A 16-TG-21 battery (16 cells, 720 ampere-hour, six-hour capacity), after battery has been charged for one hour or until machine is warm, gives a voltmeter reading of 36.8 volts with battery on charge. Each cell then should have 2.30 volts (38.6 ÷ 16).

In the illustration find 2.3 in the Volts per Cell column and mark the spot where it crosses the dark diagonal line. From there, read down to the corresponding point on the Ampere Scale.

Multiplying the value from that scale (0.15) by 720 (six-hour ampere-hour capacity) gives 108 amperes, the proper charge rate. With shunt-wound equipment, adjust generator field rheostat to charge at 108 amperes; with compound-



TABLE

TOTAL COMPOUND-WOUND GENERATOR VOLTAGE FOR CHARGING AT 2.63 VOLTS PER CELL

NO. OF CELLS	TOTAL GENERATOR VOLTAGE
6	15.8
9	23.7
12	31.6
15	39.5
16	42.1
18	47.4

There's a big difference in these pillow blocks . . . Dixie Bearings knows the difference. Do you?

One of these pillow blocks contains a non-expansion or "fixed" bearing unit. The other is an expansion or "floating" bearing. Mix them up—order a "fixed" bearing where conditions dictate an expansion unit—and you are in trouble. Bearing failure in a very short time is almost certain.

One of our customers recently ordered spare bearings for new coal handling equipment and overlooked that important difference. They allowed us to check their survey of bearing requirements against the actual bearings installed on the equipment. We found on many applications "floating" units were required and their order failed to specify this vital point. Savings in time, trouble and money for our customer by this simple check were important.

Let us help you survey your bearing requirements—let us check the actual bearings in your equipment and we will be ready with the correct bearings you need when you need them. Call or write our branch nearest you now!

DIXIE BEARINGS, INC.

Providing bearing service in the South

FLORIDA: Jacksonville • GEORGIA: Atlanta • KENTUCKY: Louisville •
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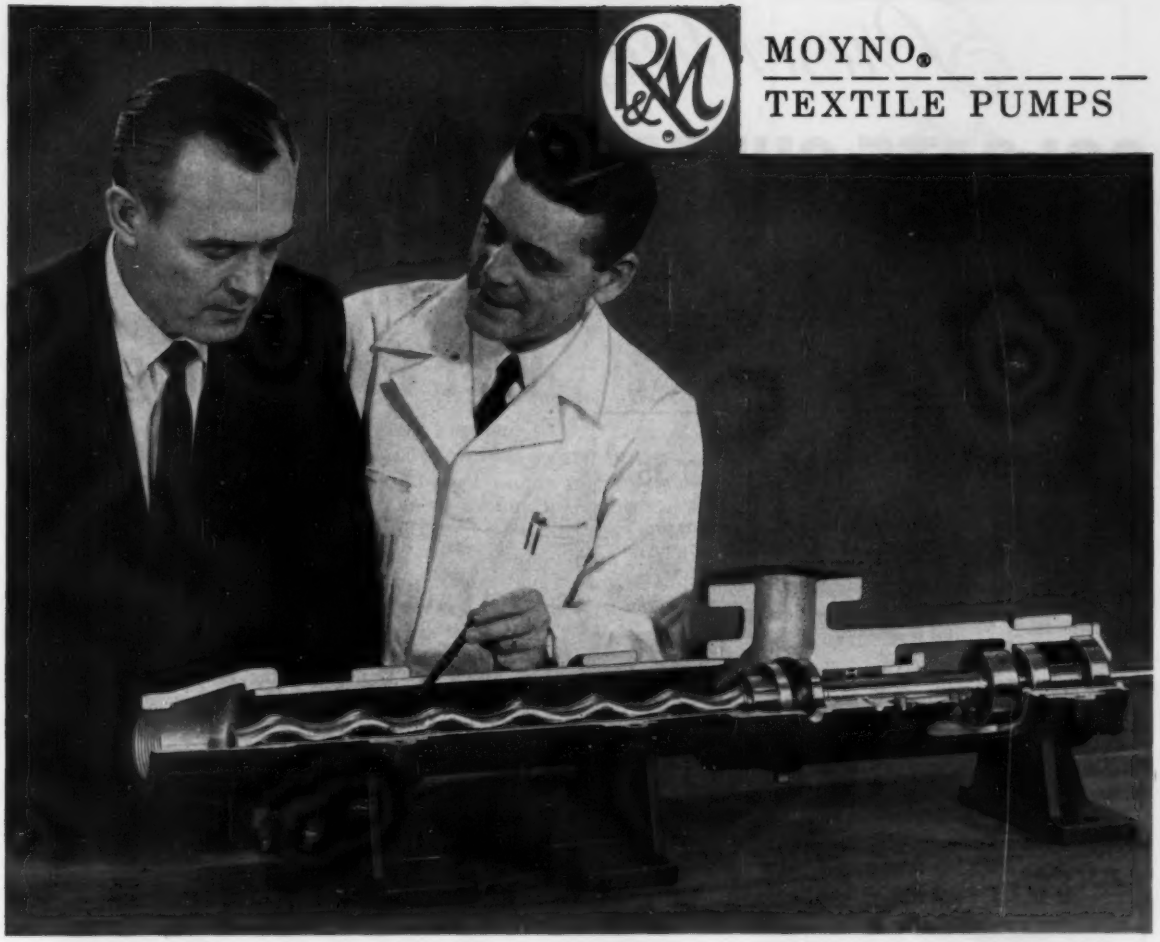


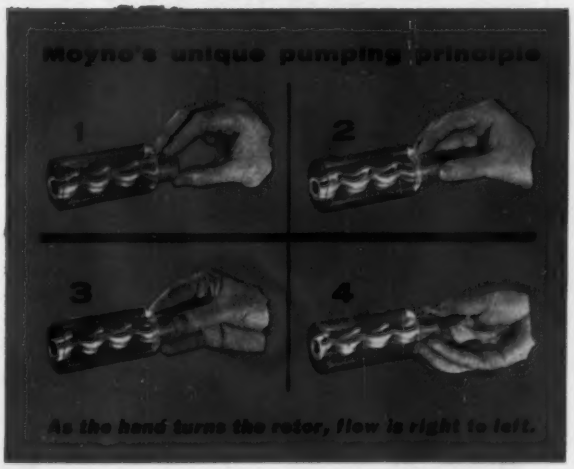
MOYNO®
TEXTILE PUMPS

MOYNOS® Pump Highly Viscous and Corrosive Textile Liquids *Without Excessive Wear!*

MOYNOS pump any textile liquid that can be forced through a pipe! They handle highly viscous materials—thickeners, starch size and non-pourable pastes economically. They pump corrosive liquids—acid solutions, dye and chlorine—without appreciable pump wear. MOYNO can satisfactorily handle caustic alkali solutions and not cause foaming or aerating. In many textile mills, MOYNOS have cut downtime drastically on mercerizing and sizing machines when they replaced rotary pumps which wore quickly and lost capacity and suction characteristics.

This remarkable ability to pump textile troublemakers is explained by MOYNO'S exclusive *"progressing cavity"* principle. As shown at right and in the cutaway model above, a screw-like rotor revolves in a double-threaded stator to form progressing cavities which move all fluids smoothly and evenly through the pump. Corrosion is no problem because both rotor and stator can be made of special resistant materials.

MOYNOS are available in capacities up to 500 gpm; pressures up to 1000 psi. Off-the-shelf replacement parts are always immediately available. For details on how MOYNOS can undoubtedly cut costs and improve liquid handling in your plant, write today for Bulletin 30 TI



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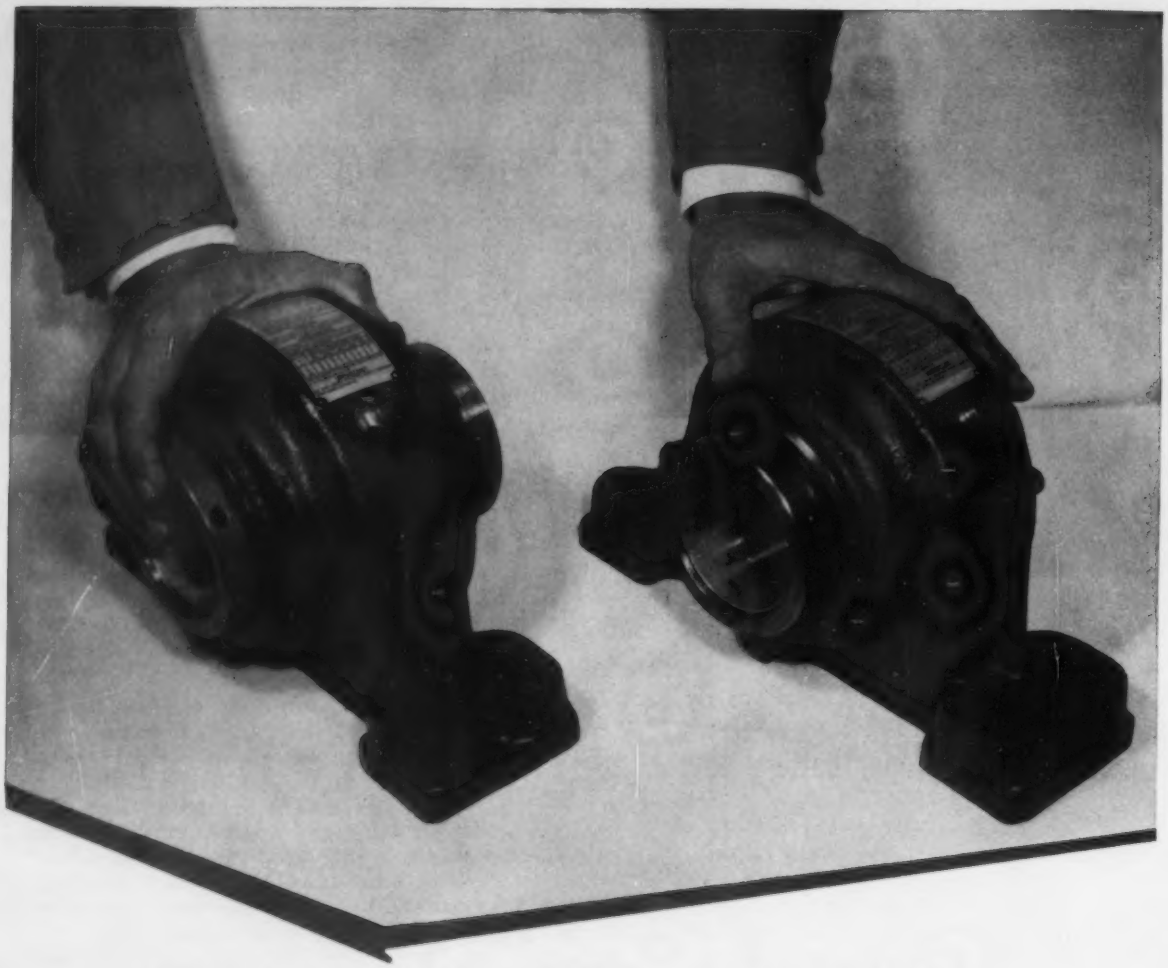
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO



There's a big difference in these pillow blocks . . . Dixie Bearings knows the difference. Do you?

One of these pillow blocks contains a non-expansion or "fixed" bearing unit. The other is an expansion or "floating" bearing. Mix them up—order a "fixed" bearing where conditions dictate an expansion unit—and you are in trouble. Bearing failure in a very short time is almost certain.

One of our customers recently ordered spare bearings for new coal handling equipment and overlooked that important difference. They allowed us to check their survey of bearing requirements against the actual bearings installed on the equipment. We found on many applications "floating" units were required and their order failed to specify this vital point. Savings in time, trouble and money for our customer by this simple check were important.

Let us help *you* survey your bearing requirements—let us check the actual bearings in your equipment and we will be ready with the correct bearings you need when you need them. Call or write our branch nearest you now!

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Providing bearing service in the South

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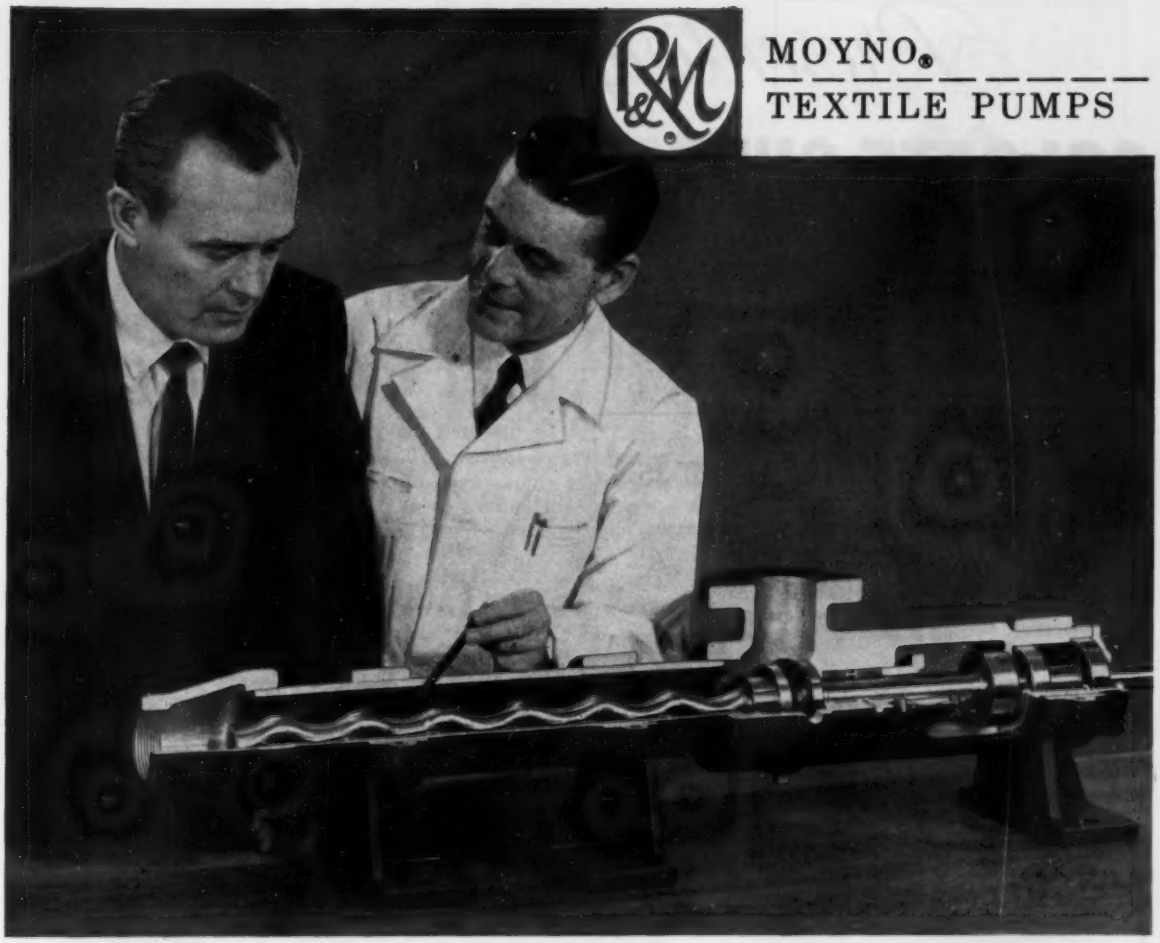
VIRGINIA: Richmond



MOYNO®
TEXTILE PUMPS

MOYNOS® Pump Highly Viscous and Corrosive Textile Liquids *Without Excessive Wear!*

MOYNOS pump any textile liquid that can be forced through a pipe! They handle highly viscous materials—thickeners, starch size and non-pourable pastes economically. They pump corrosive liquids—acid solutions, dye and chlorine—without appreciable pump wear. MOYNO can satisfactorily handle caustic alkali solutions and not cause foaming or aerating. In many textile mills, MOYNOS have cut downtime drastically on mercerizing and sizing machines when they replaced rotary pumps which wore quickly and lost capacity and suction characteristics.

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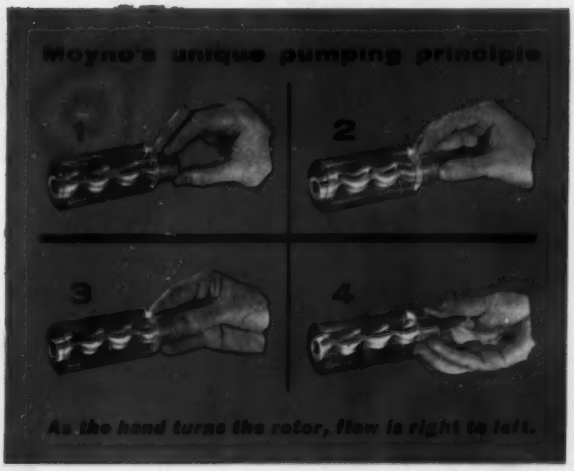
MOYNOS are available in capacities up to 500 gpm; pressures up to 1000 psi. Off-the-shelf replacement parts are always immediately available. For details on how MOYNOS can undoubtedly cut costs and improve liquid handling in your plant, write today for Bulletin 30 TI



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motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps

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Presenting...

COLGATE SURFACE ACTIVE AGENTS

With Many Uses In Textile Wet Processing

New! COLGATE MENTOR LIQUID 35

An alkyl aryl sulphonate-type liquid detergent providing excellent detergent, wetting, penetrating, foaming and dispersing properties in hot or cold, hard, soft, alkaline or acid waters.

Used for manufacturing and finishing where dye leveling, wetting penetration and detergency are required.

Made to meet the following specifications:

Active Ingredient	35.0% Min.
Alcohol (by wt.)	5.5%
Alcohol Insoluble	3.7%
Moisture	53.8%
Specific Gravity @ 25°C.	1.080

Available in 55-gal. drums.

COLGATE ARCTIC SYNTEX 036

A 100% Liquid Non-Ionic Surface Active Agent. For Use Where An Efficient, Economical Cleaning, Scouring, Wetting, Penetrating and Emulsifying Agent Is Needed.

Compatible with anionic, cationic and other non-ionic chemical substances, ARCTIC SYNTEX 036 is not inactivated by acids, alkalies, oxidizing or reducing agents; or by most organic ions. Stable for long periods at high temperatures. Will not form salts with metal ions. Very effective at low concentrations. Stable and effective in both hard and soft water.

Available in 50-lb. pails and 52-gal. drums.

COLGATE MENTOR BEADS

Spray Dried Neutral Alkyl Aryl Synthetic Detergent. Provides Excellent Wetting, Penetrating, Foaming and Dispersing Properties in Hot or Cold, Hard, Soft, Alkaline or Acid Waters.

A high-molecular-weight alkyl aryl sulphonate-type detergent, MENTOR BEADS has many uses in textile processing including: Wetting Out, Desizing, Kier Boiling, Degumming, Rayon "Boil Off," Bleaching, Fulling, Scouring, Dyeing, Washing After Dyeing, Print Washing, Finishing, Softening, Etc.

Available in 60-lb. cases.

COLGATE PALMOLIVE CO. CP QUALITY PRODUCTS SINCE 1806 A SYMBOL OF QUALITY FOR OVER 150 YEARS

FREE! Latest Edition Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose. Ask your C.P. representative for a copy, or write to our Associated Products Department.

COLGATE-PALMOLIVE COMPANY

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wound equipment (see table in illustration), adjust heavy series resistor to produce a current of 108 amperes.

Set the generator voltage at the 42.1 taken from the table (16 cells multiplied by charging rate of 2.63 volts per cell). Approximately 30 minutes after making this adjustment, repeat the steps.

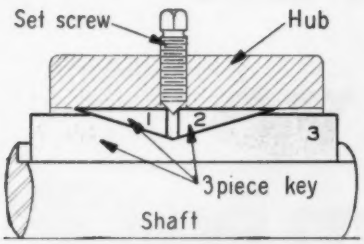
For the most accurate charging results, it is recommended that charger adjustments be checked and readjusted, if necessary, near the midpoint of any charge (when cell terminal voltages are between 2.25 and 2.40 volts per cell), not near the beginning or end of the charge.

EXIDE INDUSTRIAL DIVISION
THE ELECTRIC STORAGE
BATTERY CO.

Need Money?

Send TI your kinks, short cuts, etc. (the rules are on p. 143).

These keys keep pulleys tight on shafts



THE EDITORS:

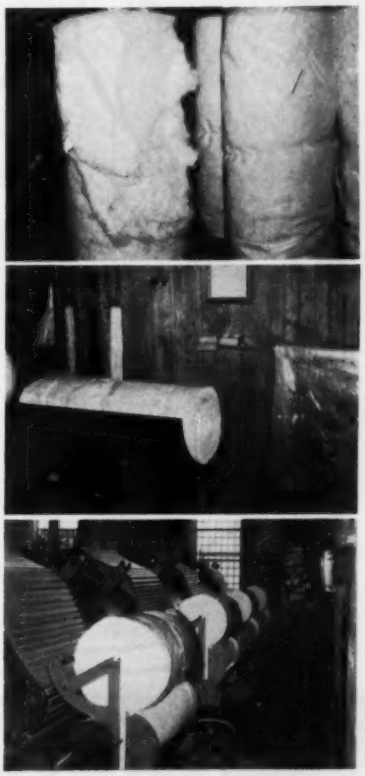
To prevent gears, pulleys, and couplings from working out of line or coming loose, I make keys in three parts, milled as shown in the drawing. When the round nose set screw is run down into the key, it spreads the key and holds the hub in line—either way it moves it gets tighter. When parts one and two are together, the effect is the same as a straight key.

CONTRIBUTOR No. 1131

Plastic wraps protect laps

THE EDITORS:

We wrap all our card laps with a plastic sheet. To identify the



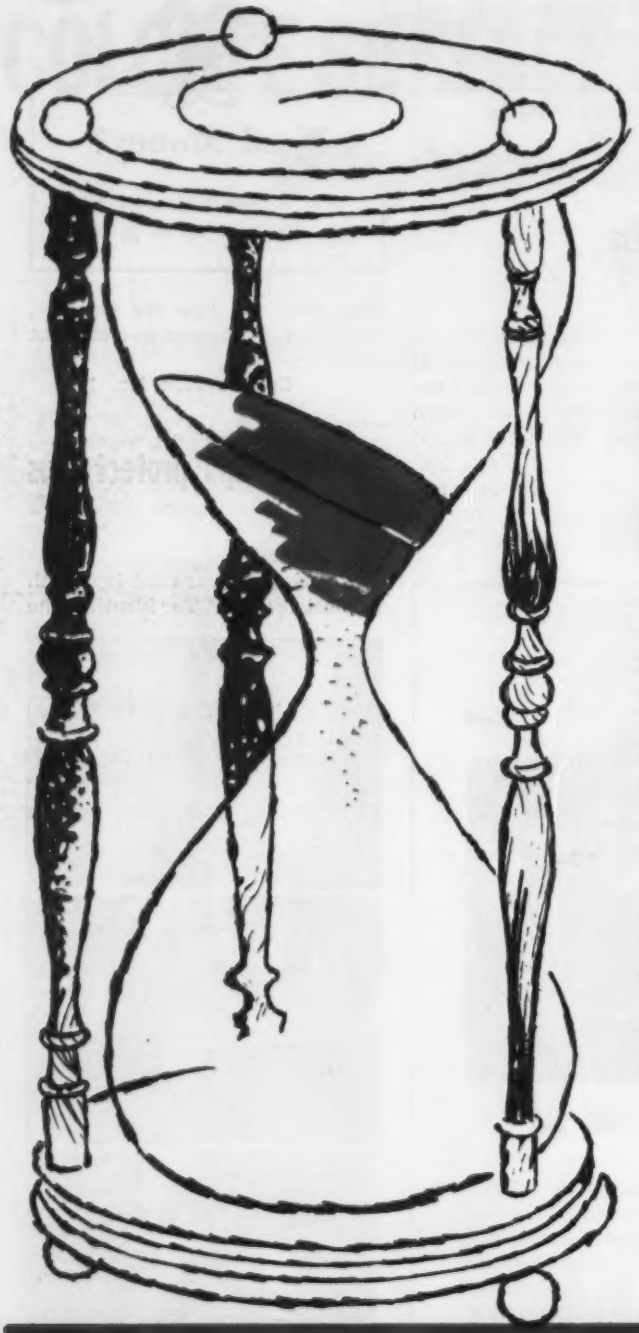
stock, we then tie the packages with strings of appropriate colors.

CONTRIBUTOR No. 1159
(Portugal)

Cost control program uses visual aid

A "cost reduction" bulletin board was erected just inside the main entrance to North Carolina Finishing Company, Salisbury, N. C., to emphasize the need visually. The picture was painted by plant personnel, and the mill tied in the price of materials currently used in the mill as compared to household items.

Walter Peeler of this wet processing plant is shown pointing at the bulletin board as he discussed the new approach with co-workers in the rayon dye department, H. H. Hartman (left), and R. L. Shaver. Also, a good name was sought for the "cost reduction" character on the bulletin board. Considerable interest was shown in the "Did You Know" information.



DYERS AND FINISHERS

save time

Thermostable Diastafor desizing agent saves you time – desizes rapidly at high temperatures up to 180°–200° F.

For fast continuous process operations, new high potency Diastafor LCD gives excellent results – saves on cost and storage space.

Standardize on Diastafor. A good prepare with Diastafor means time saved – and a finer finish.

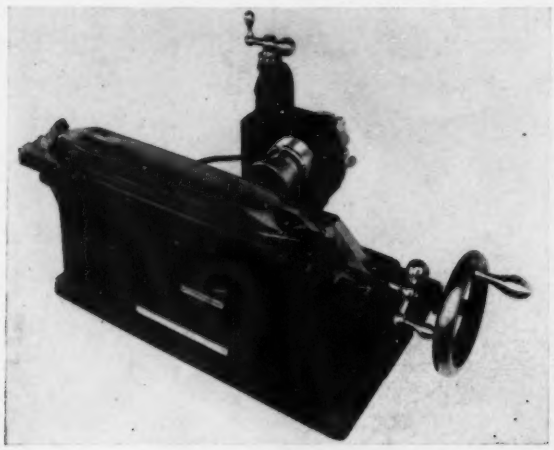
For technical service, address: Diastafor Department.

with DIASTAFOR *desizing agent*

STANDARD BRANDS INCORPORATED • 625 MADISON AVENUE • NEW YORK 22, N. Y.

NEW PRODUCT PARADE

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors.



Makes shuttles run better, last longer

Without special skill an operator may use the Stehedco Shuttle Truing Machine to quickly and precisely size, square or match shuttles, renew thread or bottom grooves, insert or rework feeler and thread cutter slots, or groove the chamber for fur lining (with optional cutters). Accurate indicators simplify the production of uniform cuts or sizing.

The main cutting tool is tungsten carbide tipped, while the other cutters are high speed steel. Cutters are designed so that bracing of the shuttle walls is unnecessary.

Steel Heddle Mfg. Co., Southern Shuttles Div., Greenville, S. C.

Do you want more data? Write ◂ or use card on page 175; list J-101

Increases spooler production by boosting morale

Positive measurement of the production of operators of Barber-Colman spoolers is provided by the Dean & Dixon Bobbin Calculator, a mechanically activated device that accurately records the number of bobbins placed in tying position (there is a counter for each operator).

Among the benefits to be derived by using the apparatus are the following:

1. Production is increased as much as 30 per cent. This method of measurement of work performed serves as an incentive to the operatives; they know they will be paid for what they do. Knotter failures and fluctuation in number of tailings do not affect their pay. Fixers are induced to keep machines operating efficiently.

2. Spooling cost is reduced as only work performed is paid for.

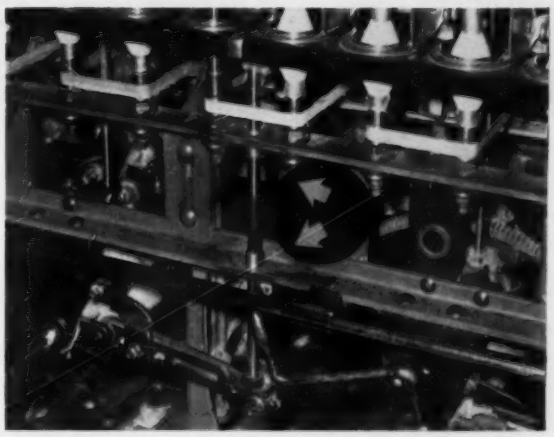
3. As long as there is only one size of package being spooled (regardless of count), only one rate of pay is necessary.

4. There is no incentive for operators to doff cheeses before they are full, and they will use half bobbins as well as full ones.

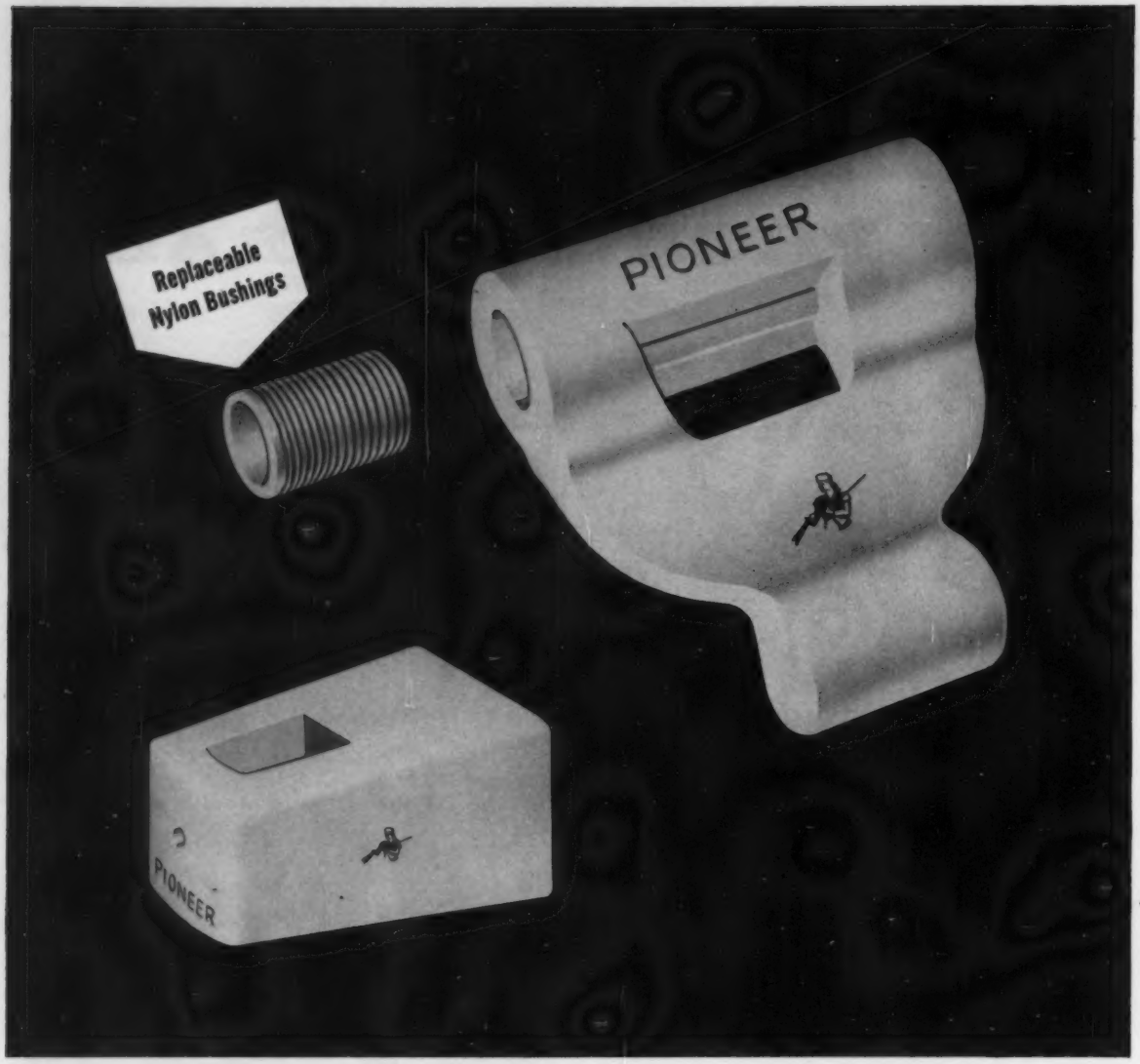
Dean & Dixon Development Co., P. O. Box 752, Charlotte, N. C.

Do you want more data? Write ◂ or use card to page 175; list J-102

Lifter rod bushing prevents seizures due to lint



A bronze lifter rod bushing now available for spinning frames and twisters eliminates rod seizure due to lint accumulation between the rod and the bushing. As shown in the accompanying illustration, the bushing has four vertical flutings spaced around the



NEW Pioneer PLASTIC PICKERS

Tremendous savings can now be realized through reduced loom down time and in picker replacement cost with new PIONEER pickers. In many performance tests, these plastic pickers have given up to ten times normal wear.

With the new replaceable nylon bushing, the plastic drop box picker will give unbelievable service. Bushing fits any plastic picker.

The new white plastic loop pickers eliminate streaks in fabrics – give amazing life.

The shock absorbing resilience of these new pickers reduces the wear on picker sticks and the noise level on looms.

These products are the culmination of twenty-five years experience in manufacturing the original PIONEER loom supplies.

For further information write The McCandless Corporation, Denman Textile Division, 607 West Fifth Street, Charlotte, North Carolina.

The McCandless Corporation
MANUFACTURING DIVISION CUYAHOGA FALLS, OHIO

inner circumference to permit the lint to fall through and prevent collection at this point.

The bushing is made by the continuous cast process which permits manufacture, by gravity casting through a die, of abrasive-free bushings and other shapes of precise dimensions cut to exactly the right length.

American Smelting & Refining Co., 19 Nassau St., New York, N. Y.

Do you want more data? Write ◂ or use card on page 175; list J-103

Flexible time-cycle controller for wet processes

An improved time-cycle controller, Model C1C500, provides increased flexibility for controlling processes based on timed operations. The new instrument can time control as many as ten different variables for such applications as the operation of dyeing, water condition, and batch processes.

Ten pilots — pneumatic, electric, or a combination— may be operated simultaneously or in any sequence. Each pilot can perform up to 24 operations. The pneumatic and electric pilots can be easily changed or added.

Dogs set on the periphery of the timing disc determine the timing of pilot operations. Intervals between operations can be as brief as four seconds, and timing discs range from 0-15 minutes to 0-360 minutes.

The Bristol Co., Waterbury 20, Conn.

Do you want more data? Write ◂ or use card on page 175; list J-104

Aid for mills weaving Dacron-cotton warps

When Rezosol 1460 is used as the binder in the size for Dacron-cotton warps, kettle costs drop sharply, weaving efficiency is increased, and seconds and shedding are substantially reduced. Easier mixing and improved separation at the lease rods are other benefits to be derived.

The resin binder is a new polymer which has excellent adhesion to Dacron fiber. It is supplied as an anionic solution of about 25 per cent solids. Because of its water miscible liquid form, the product can be added without special precautions when the size is prepared.

E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Do you want more data? Write ◂ or use card on page 175; list J-105

New labeling needs met by "Fiber Service"

American Conditioning House, Inc. has organized a new division known as Fiber Service to provide fiber identification, testing, and research on man-made and specialty fibers, as well as wool.

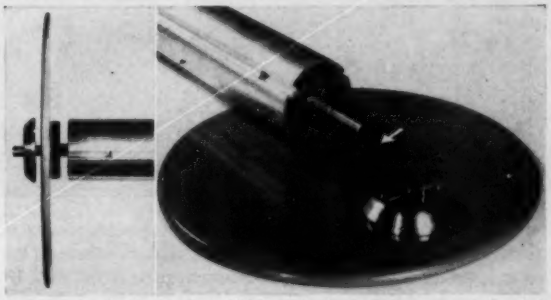
A feature of the program of fiber service is consultation by members of the professional staff, to explore sampling and testing methods, tolerances and standards, to determine their reliability and significance in the particular needs of the individual client. Where special situations exist, the organization's research services are available to tailor standard procedures to meet the prevailing conditions.

American Conditioning House, Inc., 11 Melcher St., Boston 10, Mass.

Do you want more data? Write ◂ or use card on page 175; list J-106

Jack spool features unique head design

A new light-weight, warp-free jack spool for use in woolen mills features a head design which incorporates vulcanized fiber inserts. These fiber inserts serve as lo-



In these partly dismantled (left) and dismantled views of the jack spool the fiber insert may be seen.

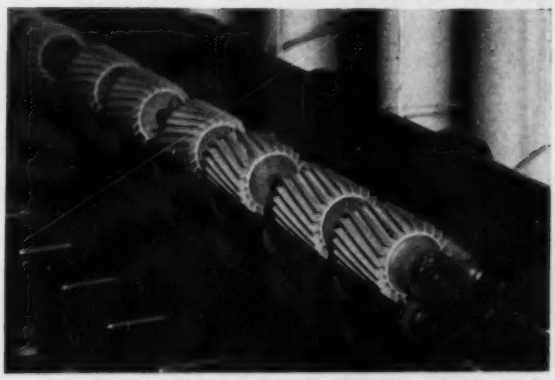
cators, to assure concentricity by preventing heads from turning. They also function as shock absorbers, maintaining the tightness of the spool, yet providing adequate resilience to absorb sudden bumps or drops without loss of spool concentricity.

In case of accidental damage, the Lock Eze spools need not be returned to the factory for repair or rebuilding. Heads are readily demountable for quick repair with standard parts that can be stocked in the plant.

Lestershire Spool Div., National Vulcanized Fibre Co., 1059 Beech Street, Wilmington 99, Del.

Do you want more data? Write ◂ or use card on page 175; list J-107

Self-cleaning clearer cover keeps rolls clean



Because of the scrubbing action provided by the design of the material, the "Sta-Clean" cover for top revolving clearers keeps top rolls clean and at the same time remains clean itself.

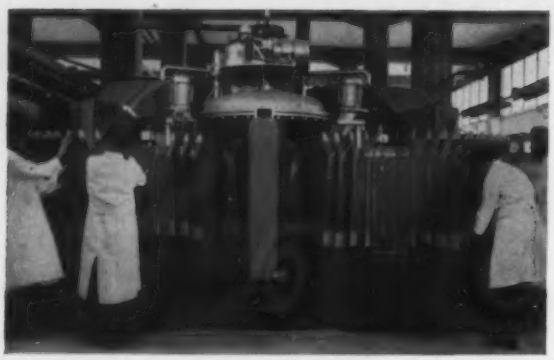
In addition to eliminating the necessity for cleaning by the spinner or other operative, this cover material almost

completely prevents top roll lap ups.

E. F. Rose & Co., P. O. Box 128, Maiden, N. C.

Do you want more data? Write ◂ or use card on page 175; list J-108

Dyes and finishes 400 doz pr ladies' hose in 8 hr



Improved quality, flexibility, and compactness are advantages of the Colorplast machine which occupies only 170 sq ft of floor space and automatically dyes and finishes up to 400 dozen pairs of ladies' stockings in eight hours. Three operators are required for pulling the stockings on and off the forms; otherwise, the operations are automatically performed.

The quality of the goods produced is improved over that obtained with conventional equipment because a double spraying process equalizes the structure of the loops and produces pleatless welts.

A special feature of the machine is its flexibility. Shade changing is easy, with little downtime required. Lots of 20 dozen may be processed as readily as very large lots.

Subsequent shading of goods is not necessary, as dyeing is done only according to formula. Once the machine is regulated to produce a given shade, it continues to yield that shade from batch to batch. Redyeing presents no difficulties.

In the first station of the three-station machine, the stockings are pulled on and off the forms; in the second, lots of 30 pairs are preboarded, cleaned, and dyed; in the third, stockings are rinsed, finished, and dried.

Manufactured by Eugen Bellman G.m.b.H. of Hagen-Haspe, Western Germany, the Colorplast machine is available through a U.S. representative.

Gerry Lebach, 15 Union St., Lawrence, Mass.

Do you want more data? Write ◂ or use card on page 175; list J-109

Automatically controls coated fabric thickness

A new type of electronic-optical instrument automatically measures the thickness of sheet, foil, or webbing of any width and material, using a principle similar to the sighting of distant landmarks on the cross hairs of surveying telescopes. Physical properties of the material being measured are not involved in the measurement, so the instrument is particularly suitable for quality control of materials such as coated fabrics or plastics of various

LOW COST TROUBLE-FREE OPERATION ...EASY INSTALLATION

New ALLEN PACKAGE DESIGN KIERS

For boiling or bleaching all types of cotton goods from gauze to heavy twills, these new ALLEN stainless steel Package Design kiers offer unusual opportunities for more profitable operation to small and medium sized bleacheries and those doing fine fabrics. Large plants, too, find them extremely useful for short runs and special fabrics. In many cases, they are replacing continuous bleaching operations for certain types of goods. Allen Package Design Kiers feature:

- **A completely prefabricated unit — pump and heater are integral parts of the kier — for easier installation and maintenance.**
- **Smooth, stainless steel interiors eliminate rub, rust and stain marks.**

Write today for circulars giving complete information on this as well as Allen kiers for knit goods and kiers for cotton and cotton batting.

William Allen Son's Company
SHREWSBURY • MASSACHUSETTS

A Division of O. G. KELLEY & COMPANY, Boston 22, Mass.

The Mark N gauge for controlling thickness of coated fabrics.

kinds which do not lend themselves easily to indirect methods due to variations in their electrical or absorption characteristics.

The non-contacting instrument may be equipped with warning lights or audible signalling devices to indicate when tolerances are exceeded. Thickness can be read on a meter mounted on the unit or remotely located, or recorded on standard types of chart or strip recorders. Connections can be made to mechanisms controlling thickness or coating weight, thus affording fully automatic control.

Available as a single or multiple installation for thickness at one point or at several points across the width, the Mark N gauge has a motor-driven adjustment with a 5-digit dial on which appears the nominal thickness to which the instrument is set for a particular run, and which the material is supposed to approximate. Then as the material flows under the gauge, a meter reads variations from the nominal thickness.

Projecto-Graph Instrument Co., Clinton, Conn.

Do you want more data? Write ◂ or use card on page 175; list J-110

Makes a fine ladies' stocking every 10 minutes

Increased production, perfect loop control, and elimination of handling snags are outstanding features of a two-feed ladies' seamless hosiery machine which Textile Machine Works is building under license from W. E. Booton, Ltd., of Leicester, England. Conventional and stretch yarns may be used to knit both plain and micromesh fabric.

With the two-feed mechanism operating in the welt, leg, and foot, a stocking is produced in 10-10½ minutes. Single-feed construction is provided in the heel and toe.

An automatic take-off and fabric control unit permits control of the loops of the fabric in the welt and throughout the stocking. Consequently, the welt can be knit with full elasticity without making "crow's foot" fabric, the whole stocking is streakfree, and the mesh fabric is clear, uniform, and defined.

On completion, the stocking is automatically taken away and deposited into a plastic container, thereby

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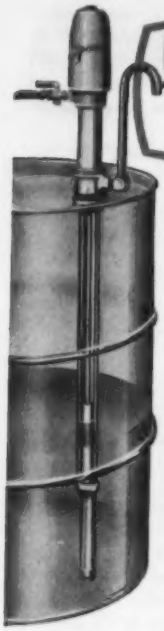

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JAMES H. CARVER Box 22, Rutherfordton, N. C.
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eliminating snags due to handling.

Other features of the machine are: automatic inturned welt, micromesh with plain or micro foot, demi toe, small and Y heels, under-toe looping, fancy garter band, mock fashion or identification marks, graduating attachment, complete looping course two courses after toe for ease of looping, quality control studs for all positions required, instantaneous electric stop motion and warning light signals, electric automatic oiling system.

Textile Machine Works, Reading, Pa.

Do you want more data? Write ◂ or use card on page 175; list J-111

Combination washer-extractor for knitgoods

Now available for manufacturers of sweaters, socks, gloves, and other apparel is a machine in which both the washing and extracting operations are performed, eliminating the necessity for handling of goods. Other advantages of the combination washer-extractor, called the "Fabri-Clean," are: fully automatic operation—cycles are adjustable; automatic feed for detergent, dyes, etc.; only a 7½ hp motor is required as air clutches are utilized.

At the push of a button after the goods have been placed in the machine, the safety cover closes, temperature-controlled water containing detergent flows into the machine, goods are washed (oil removed floats to top of water and out of holes in basket), water drains out, goods are extracted, basket is stopped, and safety cover opens. Time required for washing and extracting 100 pounds (dry weight) is 15 minutes.

Fletcher Works, Inc., 2nd & Glenwood Ave., Philadelphia 40, Pa.

Do you want more data? Write ◂ or use card on page 175; list J-112

Grease cup assures lubrication, saves labor

Controlled lubrication for either plain or anti-friction bearings on electric motors, pumps, blowers, shafts, fans, etc., may be obtained by replacing existing grease fittings, grease cups, and other lubricating devices with "Lubrimatic" automatic grease cups which give continuous pressure lubrication only while the equipment is in motion.

With this device, lubricant labor cost is reduced as much as 75 per cent; over-greasing and under-greasing are prevented; and waste of lubricant is avoided.

Features include: vented clear, unbreakable plastic 4-oz lubricant reservoir for easy view of lubricant supply; spring and weighted plunger to feed grease to bearing with predetermined pressure—springs are interchangeable to provide right pressure for each application; protective valve that seats when cup is full, preventing grease from entering bearing.

The device operates by the combination of vacuum created in the bearing by the motion of the shaft and the pressure of the compression spring or weighted plunger.

Lubriquipment Engineers, Inc., Box 9194, Fort Worth, Tex.

Do you want more data? Write ◂ or use card on page 175; list J-113

Cuts downtime, tube damage at cloth winding

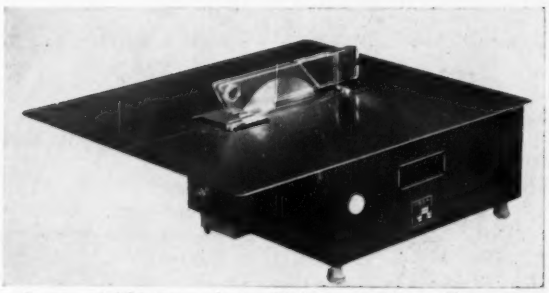
Design of the new "Center Loc" core holder for use in winding fabrics onto cores of paper or metal is such that it does not damage the cores, permit slipping, or waste time and labor in changing the winding cores.

Outstanding feature of the device is the self-expanding head on which the paper or metal tube is automatically and centrally clamped when the winding process begins. The attendant needs only to slide the core on the clamper and position it, and he can withdraw the wound package from the arbor with equal ease, since slackening of the clamp is immediate when the winding process is ended.

Hobbs Mfg. Co., 26 Salisbury St., Worcester, Mass.

Do you want more data? Write ◂ or use card on page 175; list J-114

Slits fabrics faster and at lower cost



A new table-type cloth slitting machine offers more cutting at lower cost. It features a 7½" round knife that provides from 6" to 7½" more cutting edge than other similar machines. Thus, the knife may be used longer and requires considerably less grinding.

When used for knitted cloth, the machine is fitted with fine abrasive wheels which are adjusted to produce a long-bevel, razor-keen edge that slices the stretchy fabric on contact. For woven cloth, and depending on its nature, medium-grit stones are provided and the bevel is adjusted to a shorter length for the proper cutting of such materials.

Eastman Machine Co., Buffalo 3, N. Y.

Do you want more data? Write ◂ or use card on page 175; list J-115

Speeds carving of designs in carpets

Designs may be carved into woven or tufted carpeting ten times faster than by hand, and with much more accuracy, by a carving machine fitted with high-speed tool-steel cutters that can be adjusted to make grooves, of variable width and depth.

Equipped with an exhaust system for removing the trimmings, the unit cuts a v-type groove, is built with a 24" throat (larger if desired), has power feed, and starts or stops at any position.

The design to be carved is stamped on the pile side

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MOROFIN AD

An anionic dispersion of fatty esters. Produces an excellent scroop with good "cover" and high bulk in addition to sufficient lubrication for good napping properties. It is non-yellowing and completely safe for white goods and pastel shades. Eliminates the necessity for top finishing and costly drying operations.

MOROFIN 61

An anionic emulsion of completely saturated fatty esters. Gives excellent "cover" and imparts a full soft "hand". Forms no scum, will not cloud colors or discolor whites.

MORAMINE NS

A solubilized stearamide which gives a silky "hand" and produces easily napped fabrics. Greatly reduces tendency to show lay marks or bleeding if goods are temporarily left in the wet stage.

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The ordering of maintenance material for textile machinery is simplified with this new Johnson folder which illustrates and describes a wide range of bearings for several leading makes of textile equipment.

You can order in confidence for Johnson Bearings are made to the exact specifications of the original equipment. The design of each bearing, its alloy, size-tolerances and oil grooving all are identical with the bearing to be replaced.

For your free copy of this Johnson Textile Bearing Folder JBL-9, write Johnson Bronze Company, 530 S. Mill Street, New Castle, Pa.

Johnson Textile Bearings

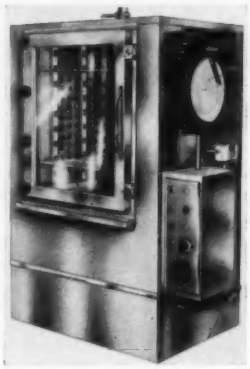
Subsidiary: Apex Bronze Foundry Co., Oakland, Cal.

of the carpet or rug, and the material is maneuvered so that the cutters follow the pattern lines much as is done in operating a single-needle tufting machine.

B. & J. Machinery Co., York St., Dalton, Ga.

Do you want more data? Write ◂ or use card on page 175; list J-116

For accelerated aging tests on military fabrics



Environmental conditions essential for Army Quartermaster and other military textile tests are provided by a new constant temperature and humidity chamber which is designed with temperature and humidity ranges to 100 C and 98 per cent relative humidity.

The unit features integral heat and humidity systems, indicating temperature and humidity controller, automatic overtemperature protection, and full length view mirror. Cabinet is available in rust proof enameled or polished stainless steel. Working chamber is heavy gauge stainless steel.

Electric Hotpack Co., Inc., Cottman Ave. & Melrose St., Philadelphia 35, Pa.

Do you want more data? Write ◂ or use card on page 175; list J-117

Uniformly conditions up to 1500 lb yarn an hour

Steam quickly penetrates every layer of yarn in the package when the Paramount Vacuum Steam Conditioner is used for packages of natural and synthetic yarns and combinations of them. A 7 to 8 minutes treating and handling cycle for cotton yarn packages that weigh 2 to 3 lb is a feature of the machine—over 1500 lb of yarn per hour may be conditioned.

Handling of the yarn is simplified by a floor level, pneumatic lift which raises the yarn truck flush with the floor of the vessel. Treating cycle is automatically controlled from a pushbutton-operated panel.

Inside the vessel the yarn is uniformly moisture conditioned and thoroughly twist set by exposure to a combination of alternate vacuum steam cycles which may be varied in sequence, duration, and intensity as desired.

Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill.

Do you want more data? Write ◂ or use card on page 175; list J-118

Fiber lubricant also controls static

A new antistatic, water-soluble fiber lubricant, Twitchell 7440, provides an unusually high degree of static control and effective lubrication for all natural and synthetic fibers at relatively low per cent applications. Other features are its ease of removal through normal scouring procedures, resistance to yellowing, and light and storage stability.

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio.

Do you want more data? Write ◂ or use card on page 175; list J-119

How to save yarn on SCP - SCOP hosiery machines

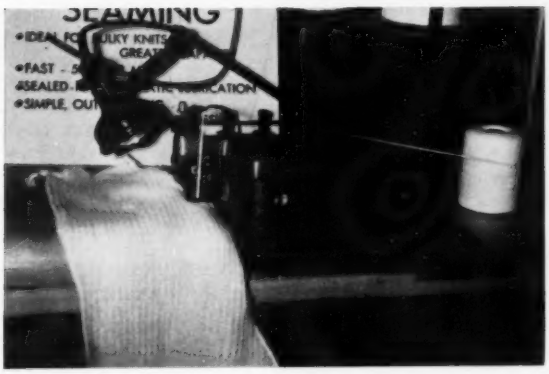
A combination yarn binder and clipper attachment for Banner SCP and SCOP hosiery knitting machines (1) saves as much as one pound of yarn for every seven dozen socks produced and (2) makes it possible for an operator to run almost 50 per cent more machines. Designated the Southern "Kwik-Trim" attachment, it may be installed on existing machines without radical changes in machine set-up.

Time for changing patterns on these machines and also the Banner wrap and reverse circular knitters may be saved with the "Honeycomb" quick change pattern drum now available. The drum consists of over 1900 jacks, each securely fixed in a separate "honeycomb" compartment. These jacks can be locked in extended or withdrawn position. To change patterns a few jack-locks are removed, and all jacks can then be pushed in or out of action with finger tip control.

Southern Mill Equipment Corp., 508 West 5th St., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 175; list J-120

Seams bulky sweaters faster



A new overedger for seaming bulky sweaters with or without tape operates at 5500 rpm. Designated Style 39500 AA, the machine is automatically lubricated.

Also available is a new machine that offers 50 to 67 per cent faster application of lace to slips and other garments. This Style 53100 S bobbinless, zig-zag stitch machine automatically trims around the lace, eliminating necessity for hand trimming.

Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

Do you want more data? Write ◂ or use card on page 175; list J-121

Pilling tester simulates actual wear

An improved pilling tester gives larger, softer pills on knit goods and soft woolen and synthetic textiles and more closely simulates actual wear results obtained with these materials.

The new Model K Appearance-Retention Tester operates at contact pressures as low as 5/1000 psi and uses a special 3KS wear disc. Test results are obtained in just one half to two minutes with knit goods and two to twenty minutes with soft woven fabrics.

Tests run for different intervals permit determination

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ALUMINUM TIP WITH 6-POINT TUBE CLUTCH
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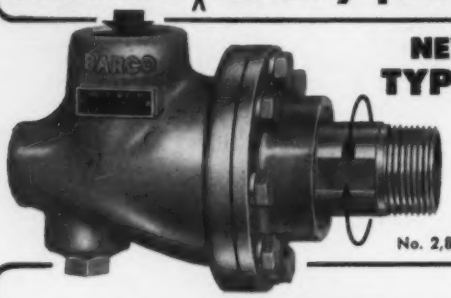

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For countless applications, Barco's new Type C Rotary Joint will give you the best operating records you've ever had—*and for LESS COST!*

"CRACK-FREE" CHROME PLATED SLEEVE—A standard Barco feature. Minimizes corrosion, friction, wear. Stainless steel spring also standard.

RESISTS SEAL RING BREAKAGE—The spherical seal ring is under compression, not *tension*, loading. Self-adjusting for wear. Seal withstands shock loads and alternating hot and cold service.

WIDE SPACED BEARINGS—Two, instead of one . . . increased bearing area. No lubrication required. Lowest friction.

200 P. S. I. STEAM RATING—Heavy duty service at *no extra cost.* Eight sizes, ½" to 3". *Send for new Catalog 310 today.* **BARCO MANUFACTURING CO., 574-K Hough Street, Barrington, Illinois.**

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of the speed and magnitude of pill formation as well as an evaluation of the size and hardness of the pills. The extent and character of pilling is quickly determined by a simple process of rubbing the test sample over a special soiling paper, that simulates preferential pill soiling in wear, and then comparing the soiled sample with visual standards. The harder the pill the more it soils.

The Model K machine is equally suitable for testing the pilling of clear finished fabrics and the surface wear and abrasion of all textiles under similar conditions used with the earlier Model PA Appearance-Retention Tester.

Fabric Development Tests, P. O. Box 45, Brooklyn 32, N. Y.

Do you want more data? Write ◂ or use card on page 175; list J-122

New finishes and chemicals

For fulling and scouring of wool and wool blends, Sterox 21-K has been introduced. It reduces chemical raw material costs, processing time, and handling problems. The product also promotes uniform shrinkage and high tensile strength in fibers.

Monsanto Chemical Co., 800 N. Lindberg Blvd., St. Louis 66, Mo.

Do you want more data? Write supplier or use card on page 175; list J-201

A new coating material for book fabrics, shade cloth, etc., has exceptional heat and light stability. Designated Experimental Latex X-2726, the vinyl copolymer latex is compatible with plasticizers and other film forming latices and may be fused at lower heat than unplasticized latices.

The Dow Chemical Co., Coatings Technical Service, Midland, Mich.

Do you want more data? Write supplier or use card on page 175; list J-202

Automatic flat knitter offers wide patterning scope

The Universal Model MC I fully automatic flat knitting machine (made by Universal Maschinenfabrik GmbH of Germany) offers the following advantages: (1) high output—carriage runs at 16 courses per minute;) (2) wide patterning scope; (3) ease of operation; (4) smooth and almost noiseless running.

Tension cams can be adjusted individually, easily, and quickly by means of threaded spindles. For each lowering cam a small plate is provided for 2/2 rib, welt, 1/1 rib with auxiliary cam (three tension positions). After cams have been adjusted to provide the basic tension, changes are effected automatically.

A pasteboard card apparatus controls the following functions: automatic yarn carrier change each row (half course); automatic racking over six needles; automatic change of cam position on each row for all kinds of tensions and pattern varieties; automatic forward and backward movement of pasteboard cards over one or two cards as desired; automatic stop motion after any number of rows.

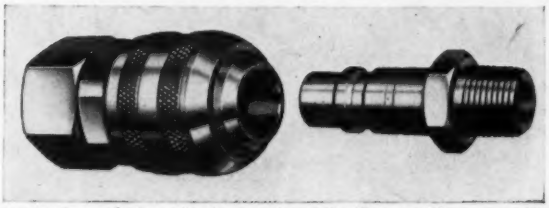
Rib, cardigan, and circular cams with auxiliary cams, fitted on the front plates from 10 gauge and up, make the machine suitable for the automatic production of all basic stitch combinations.

Stonehill Knitting Machines Corp., 174 Scholes St., Brooklyn 6, N. Y.

Do you want more data? Write ◂ or use card on page 175; list J-123

Equipment briefs

A new automatic air hose coupling provides fast and efficient coupling and uncoupling. A straight push connects the plug, locking it firmly in the socket regardless of air pressure. A slight pull on the knurled sleeve dis-



connects socket and plug, automatically shutting air off. The coupling, called the "Flex-O-Matic," does not leak and is designed to prevent kinking of the hose.

Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.

Do you want more data? Write supplier or use card on page 175; list J-203

An all-purpose anti-static aerosol spray in a 16-oz can is non-oily, non-greasy, non-toxic, non-flammable, and dries almost instantaneously. Called "Neutro-Stat," it neutralizes and prevents the formation of static charges on textiles, drive belts, tapes, aprons, rollers, etc. The product is also available in bulk as a liquid concentrate to which water or alcohol is added to make ready-to-use solution for dipping, wiping or spraying, for use in rinse waters, conditioning baths, etc.

The Simco Co., 920 Walnut St., Lansdale, Pa.

Do you want more data? Write supplier or use card on page 175; list J-204

A low-voltage package unit substation for use on 480-volt systems to supply 120/208Y circuits is available. Designed for lighting, office equipment, and similar loads, the Power-Zone substation contains three-phase transformers from 75 KVA to 300 KVA. Up to 72" of panel space is available for molded case circuit breakers.

Square D Co., 6060 Rivard St., Detroit 11, Mich.

Do you want more data? Write supplier or use card on page 175; list J-205

For spraying corrosive liquids a new line of atomizing nozzles made of hard rubber is being marketed. Identified as ¼-NR atomizing nozzles, they produce a hollow cone spray pattern, and atomization is accomplished through hydraulic pressure alone.

Spraying Systems Co., Bellwood, Ill.

Do you want more data? Write supplier or use card on page 175; list J-206

An all-aluminum, high speed twister bobbin, Model 10B, for use in all twister applications minimizes snagging. Dimensions are varied to meet customer requirements.

Allentown Bobbin Works, Allentown, Pa.

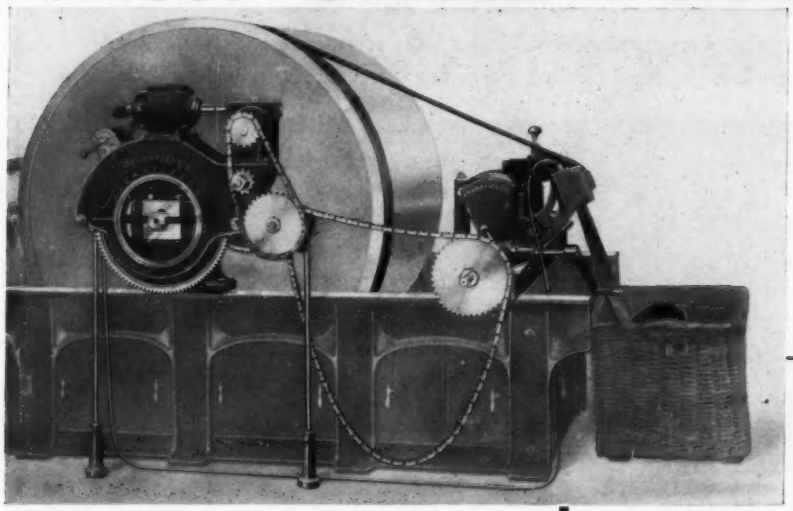
Do you want more data? Write supplier or use card on page 175; list J-207

High quality leaf imprints may be produced on boxes and bags that do not lend themselves to "ink marking" with the Markem Model 45G Box and Bag Embossing Machine. Features include: adjustable stroke leaf feed, thermostatically controlled heat, and a preheater to keep printing elements warm for instant use.

Markem Machine Co., Keene, N. H.

Do you want more data? Write supplier or use card on page 175; list J-208

Perfect **CARD MOUNTING**



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More equipment briefs

Germicides destroy offensive odors in textile process liquors and slurries and reduce plant costs by eliminating the need for cleaning and sanitizing tanks, pumps, and equipment. The compounds (Germicide No. 66 and No. 68) are used in alternating sequence to prevent the formation of bacterial stains resistant to a single germicide. The highly concentrated, high-pH agents are added in small amounts directly to processing solutions, one-half to one-third pint being sufficient to sanitize and deodorize 50 gallons of solution.

American Charcoal Co., 201 S. Green St., Detroit 17, Mich.

Do you want more data? Write supplier or use card on page 175; list J-209

Temperature and pressure controllers for industrial process applications are called the Automator Series 200, and the indicating pneumatic control instruments are available in three temperature and four pressure ranges. Fields of application include textiles, plastics, etc. The controllers are used with diaphragm-operated valves. Changes in the process under control are sensed by a remote nitrogen-filled bulb connected by a capillary to the controller—a pressure spiral element is used for sensing pressures. These changes are relayed by the controller to the valve which modulates the heating, cooling, or pressure medium to keep the process at the desired point.

The Powers Regulator Co., 3434 Oakton St., Skokie, Ill.

Do you want more data? Write supplier or use card on page 175; list J-210

Battery-powered floor scrubbing machines now on the market will wet scrub and vacuum clean up to 21,600 sq ft of floor per operating hour. Designated the Mark 20

and Mark 26, they are powered by four 6-volt batteries with an operating life of 6 - 8 hr. A small battery charger is included as standard equipment. The Mark 20 cleans

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a path 20" wide; the Mark 26, a 24" path.

Finnell System, Inc., 500 East St., Elkhart, Ind.

Do you want more data? Write supplier or use card on page 175; list J-211

A powder-actuated fastening gun combines the functions of light, medium and heavy duty models into one compact unit for maximum efficiency and economy in fastening to concrete and steel. The Ammo Studgun is equipped with eight interchangeable barrels to permit its driving all pin sizes including 5/16". A safety shield traps dust and particles and keeps noise low.

Drive Pins, Inc., 1100 20th St. NW, Washington, D. C.

Do you want more data? Write supplier or use card on page 175; list J-212

The mechanical adjustable speed drive (called the Allispede drive) offer infinitely adjustable speed over ranges up to eight to one. Operating from an a-c power source, it is available in ratings from 1 to 20 horsepower with output speeds of 1 to 10,000 rpm and is designed for use with machine tools, in textile plants, etc. The basic components can be rearranged in the field to meet changing requirements and to minimize stocking needs—drives supplied with single or double reduction gears can have gear ratios changed in the field.

Louis Allis Co., Dept. P. 427 E. Stewart St., Milwaukee 1, Wis.

Do you want more data? Write supplier or use card on page 175; list J-213

A motor base provides for more take up than normal V-belt drives require and is particularly suited for use with variable pitch drives of wide range. A cadmium-plated adjusting screw that is easily released provides easy and rapid motor movement. Upon order, bases are factory-drilled to receive a great variety of motor frames.

Browning Mfg. Co., Maysville, Ky.

Do you want more data? Write supplier or use card on page 175; list J-214

The molybdenum disulfide lubricant called Molylube 16 is being offered in aerosol spray cans. The dry solid film lubricant will resist the attack of most acids and is an excellent lubricant in temperatures from —100 F to ±750 F. Withstanding pressures greater than 100,000 psi, the compound reduces bearing coefficient of friction to that of the molydenum disulfide itself. The carrier is free of any abrasive impurities or resins and is nontoxic, noncorrosive, and noninflammable.

Bel-Ray Co., Inc., Greenvillage Rd., Madison, N. J.

Do you want more data? Write supplier or use card on page 175; list J-215

A check analysis service is available without cost to textile firms and is aimed primarily to assist in redesigning checks for electronic bookkeeping. In addition to rating a check on its adaptability to electronic processing, the analysis appraises the check on 12 other points, including general efficiency, arrangement for accurate bank handling, advertising and public relations values, color, typography, general layout, and safeguards provided against alteration and forgery. Sample checks, cancled by all-zero checkwriter impression on the amount line, sent to the Check Analysis & Design Department of this firm will be analyzed and returned.

Todd Co., Div., Burroughs Corp., P. O. Box 910, Rochester 3, N. Y.

Do you want more data? Write supplier or use card on page 175; list J-216

WITH THE Long PNEUMATIC LAP CONTROL SYSTEM
EVERY MILL CAN PRODUCE LONGER, HEAVIER LAPS!

EXISTING PICKERS of all makes may be equipped with the **LONG** System . . . it is **not** necessary to install new equipment to produce heavier, top quality laps . . . at greater profit! The **LONG** System is the only device that can deliver uniform pressure on laps forming on calender stack rolls . . . from start-up to doffing. This system may be applied to calender roll, fluted roll or both and is fully protected by U.S. Patent No. 2,871,519 — other patents applied for. The **LONG** System delivers quality laps from both cotton and synthetic fibers. **Maximum** safe pressure is assured on synthetic yarns. Constant air pressure eliminates the radical fluctuations common to the old deadweight systems.

With the **LONG** System maintenance is reduced to a minimum . . . up to 32 moving parts are eliminated with this system. Waste at ends is virtually eliminated.

MORE THAN 85 MILLS have proved the **LONG** System. Longer, heavier laps from either cotton or synthetic are being produced at greater profit. Many mills are producing cotton laps up to 75# with smaller diameter and are handling such laps manually.

OTHER L&H INSTALLATIONS:

LONG PNEUMATIC SLIVER LAP CONTROLS*
L&H PNEUMATIC CLUTCH FOR PICKERS*
L&H PNEUMATIC LAP PIN PULLER*

*U.S. & Foreign Patents Applied For

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More equipment briefs

A swivel fifth-wheel and steering attachment is available on Safeway portable elevating trucks. The dual-wheel-and-handle design replaces casters and provides a short-turn radius. The load is carried on a hardened fifth wheel for easier turning and the large-diameter wheels give easier load moving. Steering is simplified in both forward and backward moving by a hinged handle that is held in a vertical position when not in use.

The American Pulley Co., 4200 Wissahickon Ave., Philadelphia 29, Pa.

Do you want more data? Write supplier or use card on page 175; list J-217

A machine embosses metal plates or plastic cards at a pace 10 to 30 per cent faster than its predecessors. Called the Class 6400, it is available for all styles of Addressograph plates and cards and is equipped with a carriage employing an automatic line and character indicator, quick-change line and character spacing controls, automatic plate positioning, and selective line and character spacing. The keyboard features a carriage release key, electric shift and back space key, and key for automatic tabulation.

Addressograph-Multigraph Corp., 1200 Babbitt Rd., Cleveland, Ohio.

Do you want more data? Write supplier or use card on page 175; list J-218

An adjustable-speed sheave of simplified design and stationary control is available for A-, B-, and C-section belts in two-, three-, and four-groove construction. Called the Adjustex sheave, its pitch diameter sizes parallel those of the former Vari-Pitch sheaves. One entirely new diameter for C-section belts—7.5-/9.7-inch pitch diameter—is offered. Design capacities to 75 horsepower are covered by 33 sizes, and adjustment is made through a single adjusting screw and a hollow lock screw.

Allis-Chalmers Mfg. Co., 1054 S. 70 St., Milwaukee 1, Wis.

Do you want more data? Write supplier or use card on page 175; list J-219

Pipeline aftercoolers designed to cover the range of conditions encountered in industrial air compressor service (designated Type A-100) are a series fully standardized to eliminate the engineering costs and delays involved in custom fabrication. Features include steel shell construction, corrosion resistance, removable tube bundle, packed floating head, and non-metallic baffles. A moisture separator removes entrainment from the line. They are offered in 54 models with capacities specified for operating pressures up to 125 psig for single- and two-stage compression. Special units can be fabricated.

American-Standard, Ross Heat Exchanger Div., Box

Do you want more data? Write supplier or use card on page 175; list J-220

Economical, stainless steel exchangers for pilot-plant and production uses are offered in 19 sizes in one-, two-, and four-pass designs. Design features for the SSCF series include tubes that are roller expanded into tube sheet, transverse baffling, and close tolerances between shell and baffles as well as tubes and baffles. They are tested at 450 psi and perform equally well in vertical or horizontal positions.

American-Standard, Ross Heat Exchanger Div., Box 2081, Buffalo 5, N. Y.

Do you want more data? Write supplier or use card on page 175; list J-221

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The FIRST OUTDOOR POLO GAME
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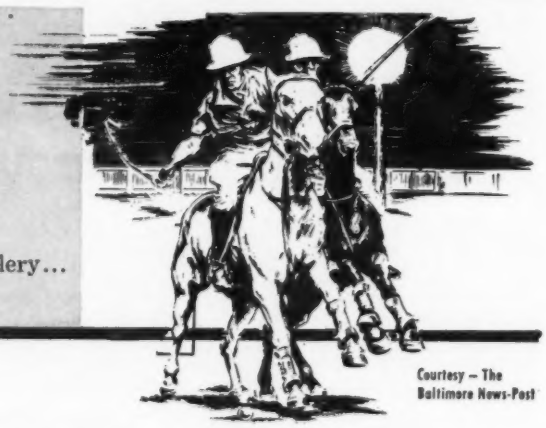
at BALTIMORE'S
Homewood Field on JULY 2, 1931

The Maryland Polo Club played the 110th Field Artillery...
The Field was brightly lighted for the game.



Courtesy – The Baltimore News-Post

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Closed-circuit TV for military, industry, business, and education makes possible remote viewing of an action or process otherwise inaccessible or hazardous. The basic system consists of vidicon camera, monitor, and control unit—camera features an entirely electronic light compensator (no moving parts), which instantly and automatically adjusts to compensate for light changes over a practical range eight times as great as normally covered by lens stops.

Industrial Products Div., Internat'l. Tel. & Tel. Corp., 15191 Bledsoe St., San Fernando, Cal.

Do you want more data? Write supplier or use card on page 175; list J-222

A voltmeter permits static charges within a range of ± 1000 volts to be read without making contact with the surface containing the charge. The Model 107 A feedback electrostatic voltmeter permits the measurements of the free space electrostatic potential of a small area by placing a probe in the proximity of the surface. The inherent error in the instrument is under 0.2 per cent if the probe does not exceed ⅛" separation from the surface.

Monroe Electronic Laboratories, Inc., Middleport, N. Y.

Do you want more data? Write supplier or use card on page 175; list J-223

Soft-drink vending machines that have 800-cup capacities (ingredient capacity: 40 pounds) are available in units measuring 67" in height, 24" in width, and 28" in depth. Fountain mixers, one for each flavor, mix and blend each drink, which are available in more than 20 flavors. Called Shake-Spa, the vendors are made in compliance with U. S. Public Health Service ordinance and code.

Cole Products Corp., 560 W. Lake St., Chicago 6, Ill.

Do you want more data? Write supplier or use card on page 175; list J-224

An industrial fire hose can be soaked continuously in mud holes, strung out in the dankest of underground places for months at a time, or hung in an atmosphere heavy with acid fumes without hurting it. Made with a Dacron jacket, the Imperial hose withstands surge pressure far beyond its initial 500 psi test—a truck can run over it and not rupture it. It also has exceptional resistance to abrasion.

B. F. Goodrich Industrial Products Div., Akron, Ohio.

Do you want more data? Write supplier or use card on page 175; list J-225

A taped voice instruction system permits vocal instructions to be passed on to production workers, beginners, etc., in "blocks" containing only as much information as the recipient is expected to understand at the moment. The AIMO (Audio Instructed Manufacturing Operation) uses two machines—one for recording and one for the operative to use. The latter unit can be reversed whenever the operative wishes a repeat of the instructions.

Dictaphone Corp., 420 Lexington Ave., New York 17, N. Y.

Do you want more data? Write supplier or use card on page 175; list J-226

A centrifugal hand tachometer made in Western Germany has an accuracy within plus or minus 0.5 per cent. The pointer rotates 675 degrees, providing a scale length of over 13½" while having a dial only 2 7/8" in diameter. A reflecting mirror on the dial of the Tri-Tach permits reading to be made absolutely without parallax, and a stop button locks the pointer at any speed as a reading reminder until the next speed check. It comes supplied with a six-inch circumference wheel, one concave and one convex neoprent tip, and a four-inch extension arm. In three ranges it measures from 40 to 40,000 rpm or 20 to 20,000 fpm.

Boulin Instrument Corp., 10 First St., Pelham, N. Y.

Do you want more data? Write supplier or use card on page 175; list J-227

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engineers personally survey your water heating system. This free check-up may lead to your saving many dollars in fuel, and in boiler maintenance costs. Learn first hand how you can harness the heat in your waste water to preheat incoming fresh water. Get the facts right at your scene of operation. Remember, there's no obligation. Call or write today!

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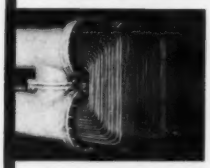
has the exclusive *continuous tubes* feature which makes possible *continuous* rated performance. The specific temperature rise guaranteed by a Ludell System is meaningful because it is achieved every day, every week, every year.

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eliminates the possibility of clogging and plugging which reduces heat transfer efficiency. There are no cavities or tube sheet entrances where solids can accumulate such as happened with the obsolete design shown here. Ludell guarantees in writing non-clog performance.

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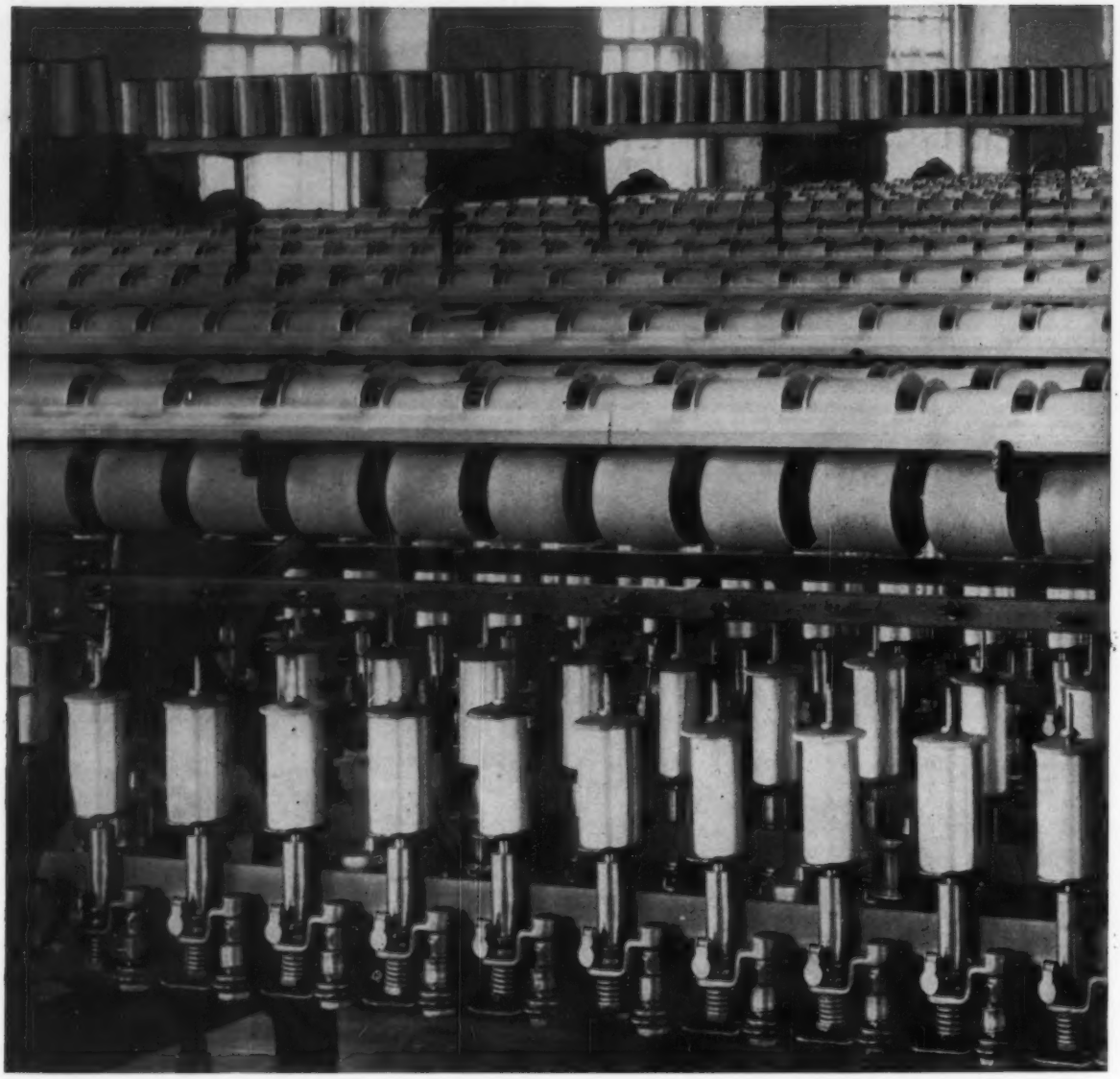

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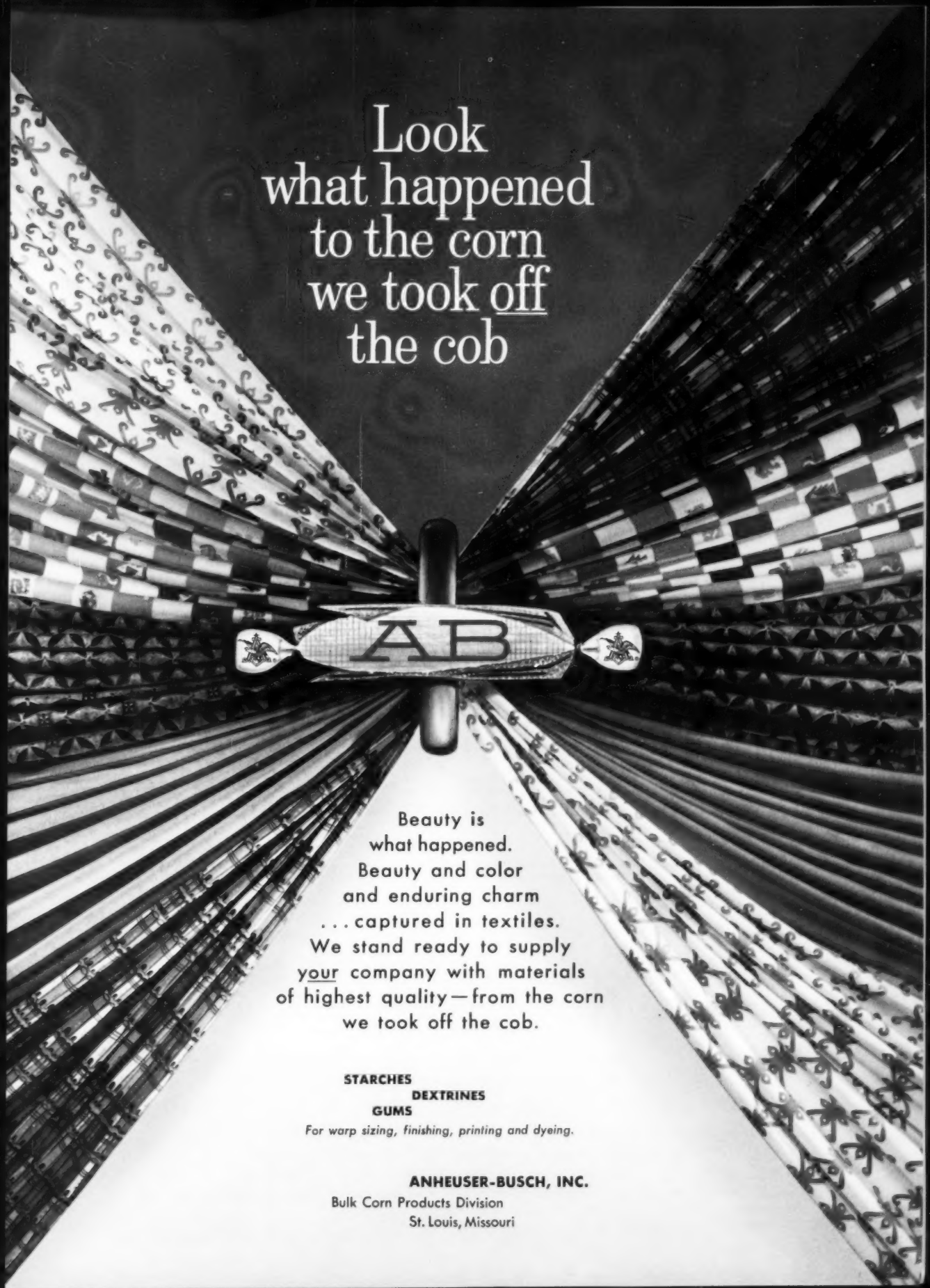
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to the corn
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the cob
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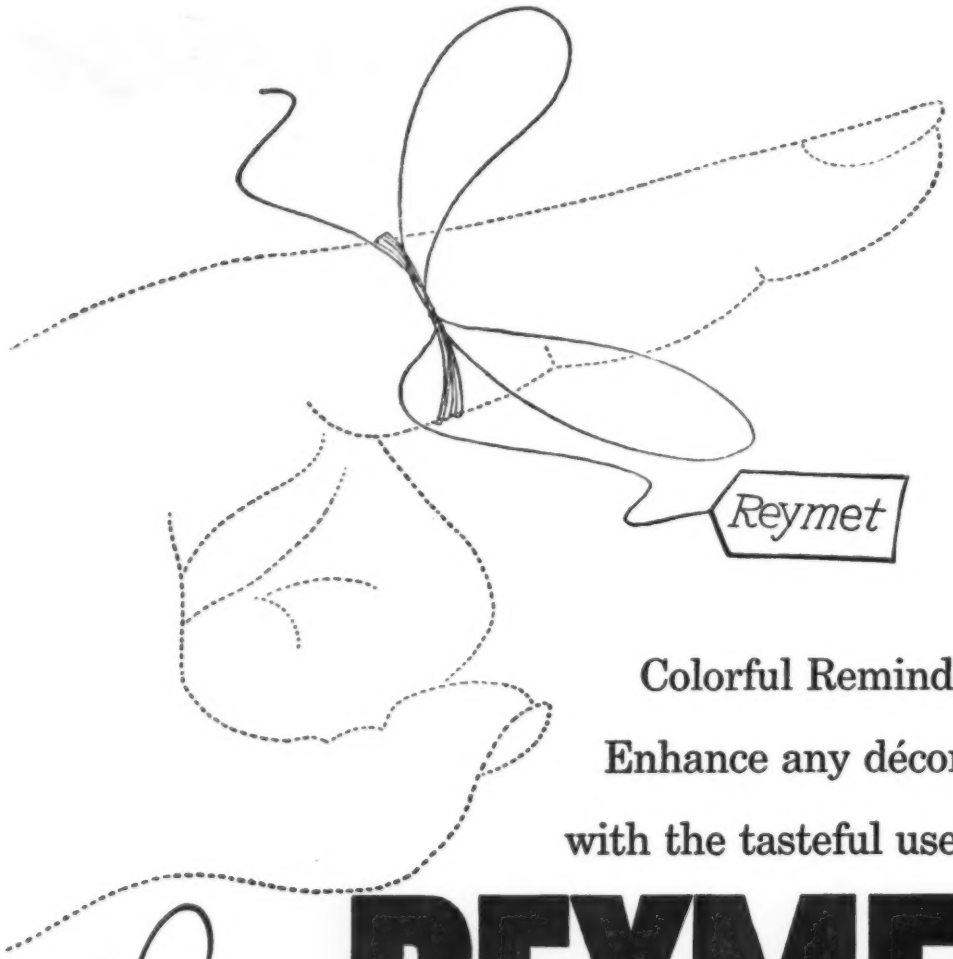

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FREE BOOKLETS

9-1 MONORAIL AND CRANES. Booklet shows how materials handling costs may be cut through the use of Monorail and Cranes. Covers installation features and sequence of operations. The Louden Machinery Co. Fairfield, Iowa.

9-2 HOSIERY CARRYING TRAYS. Bulletin shows pictures and specifications of aluminum trays with sanforized suede cloth covers. Textile Metals and Plastics, Inc. Box 4065, Greensboro, N. C.

9-3 CRABBING MACHINE. Circular illustrates and gives details of single bowl intermittent crabbing machine. Birch Brothers, Inc. 32 Kent St., Somerville 43, Mass.

9-4 BARRE'-FREE COLORS. Bulletin gives applications and formulas for faster, barre'-free colors for use on stretch nylon tights. Sandoz, Inc. 61 Van Dam Street, New York 13, New York.

9-5 SPRAYING SYSTEMS. Bulletin describes advance design spraying systems for humidifying and air conditioning. Spraying Systems Co. 3201 Randolph Street, Bellwood, Illinois.

9-6 ENGINEERED MAINTENANCE. How to control costs, improve efficiency, and save time in sanitary maintenance is described in this bulletin. Puritan Chemical Company, 916 Ashby Street, Atlanta 18, Georgia.

9-7 UPSHEEN COMBING. Bulletin tells how carded yarn mills can break the barrier to bigger profits through the use of the Upsheen combing process. Saco Lowell Shops, Textile Machinery Division, Easley, S. C.

9-8 THERMOPLASTIC. Four page technical data bulletin describes new polypropylene thermoplastic. Avisun Corporation, 1608 Walnut Street, Philadelphia 3, Pa.

9-9 COMPLETE TRUCK LINE. Bulletin describes industrial trucks for a multitude of uses, ranging from 1,000 to 40,000 pounds capacity. Hyster Corporation, 2902 N.E. Clackamas St., Portland 8, Oregon.

9-10 VARIABLE SPEED PULLEYS. Bulletin describes a line of variable speed pulleys for rating of 2 to 15hp. T. B. Wood's Sons Company, Chambersburg, Pa.

9-11 CONVEYING SYSTEMS. Brochure describes versatile powered conveyor which fits into any plant system. Union Steel Products Co, Albion, Mich.

9-12 SPRING CLUTCHES. Catalogue describes five standard lines of spring clutches from 1/8" to 1". Marquette Division, Curtis Wright Corp. 1145 Galewood Drive, Cleveland 10, Ohio.

9-13 LOOM PARTS. Bulletin describes loom sheaves and other textile parts. Wakefield Bearing Corp. 29-99 Foundry St., Wakefield, Mass.

9-14 NEW VAT DYESTUFF. Circular deals with the properties and applications of Indanthrene Corinth B Infra Paste for use on cellulosic textiles. General Dyestuff Company, 435 Hudson St., New York 14, N. Y.

9-15 PROCION DYESTUFFS. Bulletin lists the present line of Procion dyestuffs, including new members which have increased the range to 26. These will cover nearly every part of the spectrum. Arnold, Hoffman Co, Inc. 55 Canal St., Providence, R. I.

9-16 PIN DRAFTER. Textile job report No. 24 describes pin drafter installation at Wellman Combing Company in Johnsonville, South Carolina. Warner & Swasey Company, 5701 Carnegie Avenue, Cleveland, Ohio.

9-17 FRETTING CORROSION. Bulletin describes how fretting corrosion can be licked in variable speed sheaves. T. B. Wood's Sons Co. Chambersburg, Pa.

9-18 FORK LIFTS. Booklet describes increased operating efficiency, greater driver comfort and improved handling ease of "Stream-Liner" Series. Towmotor Corporation, 1226 East 152nd St., Cleveland 10, Ohio.

9-19 DYEING ARNEL-COTTON. Report gives methods of solving problems involved in dyeing Arnel-cotton blends. Sandoz, Inc. 61 Van Dam St., New York 13, New York.

BOOKLETS

raw stock to roving

T-101 LUMMUS PEPPER - SHAKER OPENER. Gives complete details and protographs. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-102 STATIC ELIMINATION. How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St., Lansdale, Pa.

T-103 CARD GRINDING INFORMATION. Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

T-104 CARD CLOTHING. Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

T-105 VERSA - MATIC DRAWING FRAME. Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

T-106 SARGENT OPENER. Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-107 FEATHERTOUCH DRAFTING. How to get "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

T-110 BOBBINS. Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fibre Co., Wilmington, Del.

T-111 MAGNETIC IDEAS. Booklet shows uses of permanent magnetic separation equipment in opening room as well as throughout mill. Removes tramp iron, prevents fires. Eriez Mfg. Co., Erie, Pa.

T-112 ADVANTAGES OF ALDRICH PICKERS. Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-113 NEW CONDENSER TAPE. Describes Supr-O-Tape, an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-119 FIBER METER. Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Inc., Greenville, S. C.

T-120 PIN DRAFTERS. Textile job report No. 21 tells how Warner & Swasey Pin Drafters help modify jute systems for carpet yarns. Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio.

T-121 UNIVERSAL CARD COILER. Literature describes both head and base swivel for adjustment. Includes data on 90-day free trial. McDonough Power Equipment, Inc., McDonough, Ga.

T-122 RECONDITION OPENING & CLEANING. Bulletin gives whys and wherefores of reconditioning your opening and cleaning lines. Special attention given to each machine with suggestions as to parts replacement. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-123 COILER CONVERSIONS. Full facts on low initial cost conversion to larger coiler cans. Lists advantages, has complete description. Southern States Equipment Corp., Hampton, Ga.

T-124 CARD DRIVE. Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

T-132 PROCTOR SUPER PICKER. Data sheet gives details of the Proctor Super Picker for use on slabs of baled cotton, or wool and synthetic blends in layers up to 12" thick. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-133 ANTI-STATIC AGENT. Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

yarn and warp making

T-201 PRODUCTS FOR SPINNING AND WEAVING. Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

T-202 NEW BOBBIN MANUAL. Complete bobbin guide. Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

T-203 SPINDLE OIL. "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

T-205 HIGH SPEED AUTOMATIC QUILLER. Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N. C.

T-208 PACKAGED SPINNING MODERNIZATION. Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

T-209 SECTIONAL WARPER. Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

T-210 CONICAL RINGS AND FLYERS. Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

T-211 PRECISE WINDING MACHINE. For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

T-212 AUTOMATIC CLEANING EQUIPMENT. Working details and advantages of the Tri-Rail Cleaner. American MonoRail Co., 1111 East 200th St., Cleveland 17, Ohio.

T-216 SPINNING FRAME CONVERSIONS. Big-package, new-frame results at half the cost. Meadows Mfg. Co., P. O. Box 10876, Station A, Atlanta, Ga.

T-217 COLLECTO-VAC. New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

T-219 SPINNING AND TWISTER RINGS. Complete details, pictures, price list. Whitinsville Spinning Ring Co., Whitinsville, Mass.

T-222 SUCTION CLEANING SYSTEM. Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 8, N. C.

T-223 FACTS ABOUT YOUR FLYERS AND SPINDLES. Advantages of smooth flyer and spindle operation. Ideal Machine Shops, Bessemer City, N. C.

T-225 LAPLESS ENDLESS SPINNER. Full information available. Ton-Tex Corporation, 31 Columbus Ave., Englewood, N. J.

T-226 WORSTED SPINNING. Describes five stages from top to yarn. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-227 SPINDLE OILING MACHINE. Features and advantages noted. Wicaco Machine Corp., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

T-228 HANDY SPINNING REFERENCE. Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I., and Gastonia, N. C.

T-229 UNIRAIL UPTWISTER. Higher yarn quality and better packages at faster speeds. Universal Winding Co., P. O. Box 1605, Providence, R. I.

T-230 PRECISION TEXTILE WINDING. Tensions and density control for winding rubber cones. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-231 CONE WINDER. Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

T-232 SHORT CUT TO STAPLE FIBER SPINNING. Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

T-233 WEAVER'S KNOTTER. Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

T-234 TEXTILE ROLL COVERINGS. Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

T-239 LARGE PACKAGE TWISTER. Information on new anti-friction Jumbo Twister which carries a 14" bobbin with a 12" build. Meadows Mfg. Co., P. O. Box 10876, Sta. A, Atlanta, Ga.

T-241 PACEMAKER TWISTERS. Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

T-242 RING SPINNING FRAME. Folder presents description, illustrations and specifications of up-to-date Simplex ring spinning frames. Davis & Furber Machine Co., North Andover, Mass.

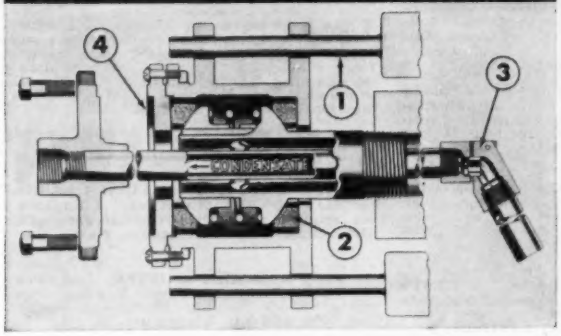
T-243 ANTI-FRICTION TWISTER BEARINGS. Find out how bearings helped make The Meadows Twister almost friction-free. Fafnir Bearing Company, New Britain, Conn.

T-246 BETTER BEAMS. Information on three ways to make better beams. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-249 VARI-SPEED MOTOR PULLEY. Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-250 SPINNING MODERNIZATION Booklet shows how lower costs and improved quality are obtained by spinning modernization. Roberts Company, Sanford, N. C.

For service on Dry Cans and 30" Slasher Cylinders



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BOOKLETS

T-255 NEW BOBBIN HOLDER. Details on streamlined, positive latching bobbin holder. Whitehead Die Casting Co., 1140 Zonolite Rd., Atlanta, Ga.

slashing—weaving—tufting

T-301 COUNTING AND MEASURING DEVICES. Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

T-302 LOOM SUPPLIES. Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

T-304 LOOM PRODUCTION CHARTS. Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

T-306 THE STORY OF STARCHES. History and information on manufacture and use of starches. National Starch & Chemical Corp., 750 Third Ave., New York 17, N. Y.

T-308 STEEL WARP BEAMS. Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

T-309 PENFORD GUMS IN TEXTILES. Describes their excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-312 AIR SLASHER DRYER. Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-313 BUTT-TACKING SEWING MACHINE. Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

T-314 LOOM REED BOOKLET. Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 COCKER EQUIPMENT. Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-318 FORMULAS FOR SLASHING ARNEL. Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 ECLIPSE STARCHES FOR TEXTILES. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-321 COCKER SLASHERS. Complete specifications and advantages, including allied equipment. Cocker Machine & Foundry Co., Gastonia, N. C.

T-322 MOUNTS FOR LOOMS. Vinyl mount eliminates need for bolts or paste. Clark, Cutler, McDermott Co., 106 W. Central St., Franklin, Mass.

T-323 UNIFIL LOOM WINDER. Describes new concept of filling preparation which needs no quilling area. Universal Winding Co., P. O. Box 1605, Providence, R. I.

T-324 ALIGNING LAYS. Setting instructions for step-by-step aligning. Draper Corporation, Hopedale, Mass.

T-325 TRAVELING LOOM CLEANER. Advantages of the new Oscillaire loom cleaner. Parks-Cramer Co., Fitchburg, Mass.

T-326 DRAPER REPAIR PARTS CATALOG. Contains illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

T-327 BALING PRESSES. Describes complete line of motor-driven and hydraulic baling presses. Logemann Brothers Co., 3150 West Burleigh St., Milwaukee, Wis.

T-328 TEXTILE MACHINERY PARTS CATALOG. Describes complete line of Dayco and Thorobred textile parts. Dayton Rubber Co., Dayton, Ohio.

T-329 COUNTING DEVICES. Describes complete line of counters for every application. Trumeter Company, 38 W. 32nd St., New York 1, New York.

T-331 STATIC BARS. Humorously illustrates how static can be overcome. The Simco Co., 920 Walnut St., Lansdale, Pa.

T-332 CARE OF DRAPER SHUTTLES. Describes how longer, trouble-free service may be obtained. Draper Corporation, Hopedale, Mass.

T-334 LARGEST SLASHER ORDER IN HISTORY. Folder tells why Springs Cotton Mills bought 25 multi-cylinder slashers. West Point Foundry & Machine Co., West Point, Ga.

T-336 ONE-PIECE SIZING AGENT. Houghto-Size CW provides low kettle cost, results in free-running warp of high breaking strength, increasing weaving efficiency. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

T-346 FACTS ON NON-WOVENS. Fact file on non-wovens tells of new machinery, new methods of handling fibers, new bonding agents, etc. Curlator Corporation, Textile Div., E. Rochester, N. Y.

T-347 NEW DRYING SYSTEM. Describes high capacity, custom engineered drying equipment for tufted plants. Dalton Sheet Metal Co., Inc., Dalton, Ga.

T-351 AUTOMATIC STOP MOTION. Complete information available on automatic stop motion for Titan warp tying-in machine. Edda International Corp., 468 Fourth Ave., New York 16, N. Y.

T-353 BACKING FOR TUFTEDS. How to get your tufting necessities with one telephone call. Fulton Cotton Mills, P. O. Box 1726, Atlanta 1, Ga.

T-355 NON-WOVEN FABRICS. Booklet gives outline of nature and history of non-woven and the manufacturing techniques of today. Booklet 56-219A, Chemical Div., Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-358 LOOM SUPPLIES. Information on rod lubricant and applicator, sponge leather bunter, picker. Garland Mfg. Co., 54 Water St., Saco, Me.

T-360 SUPPLIES FOR TUFTERS. Information on yarns for rug tufting or chenille or carpet backing. Piedmont Cotton Mills, East Point, Ga.

T-361 ECLIPSE STARCHES FOR TEXTILES. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-362 SIZE THAT SATISFIES. Information on getting the correct size package for your mill. Also on Bingham line of slasher rolls. Stodghill & Co., 716 Ponce de Leon Place, Atlanta, Georgia.

T-363 RUBBER COVERED SLASHER ROLLS. Handy booklet tells how to get longer life and better performance from rubber covered rolls. Includes data on handling, storing and grinding. Stowe-Woodward, Inc., Dept. C., 181 Oak St., Newton Upper Falls 64, Mass.

knitting

T-401 SINGLEHEAD FULL - FASHIONED MACHINE. Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-403 RASCHEL KNITTER. Describes new Raschel-type knitting machine. Kidde Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 NEEDLE OIL DOES NOT STAIN. Details on "Guiftex 39" developed for knitting mills. Gulf Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

T-407 KNITTING MACHINES. Information on Wildman "TFS" 30" single section F-F machines and "AL" 32" diameter 32-feed "single purpose" circular interlock machine (rib type). Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-409 KNIT GOODS FINISHING MACHINERY. Data on calenders, shrinkers, curers, extractors, steamers. Tubular Textile Machinery Corp., 33-61 54th St., Woodside, N. Y.

T-410 "READING" TYPE 60 F-F KNITTING MACHINE. Information about the new "Reading" Type 60, 38-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

wet processing

T-500 CLOTH GUIDES. Bulletin 22.1 provides application diagrams and illustrations. GPE Controls, Inc., 240 E Ontario St., Chicago 11, Ill.

T-501 TUBES FOR PACKAGE DYEING. Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 FINISHING MACHINERY. Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

T-503 WATER ANALYSIS. Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 UREA FORMALDEHYDE. Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-506 CATIONIC SURFACE ACTIVE AGENT. Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-507 CONTINUOUS STARCH COOKER. Booklet shows how the use of continuous cookers for starch assures accurate control, economy, low maintenance in warp sizing and finishing. Clinton Corn Processing Company, Clinton, Iowa.

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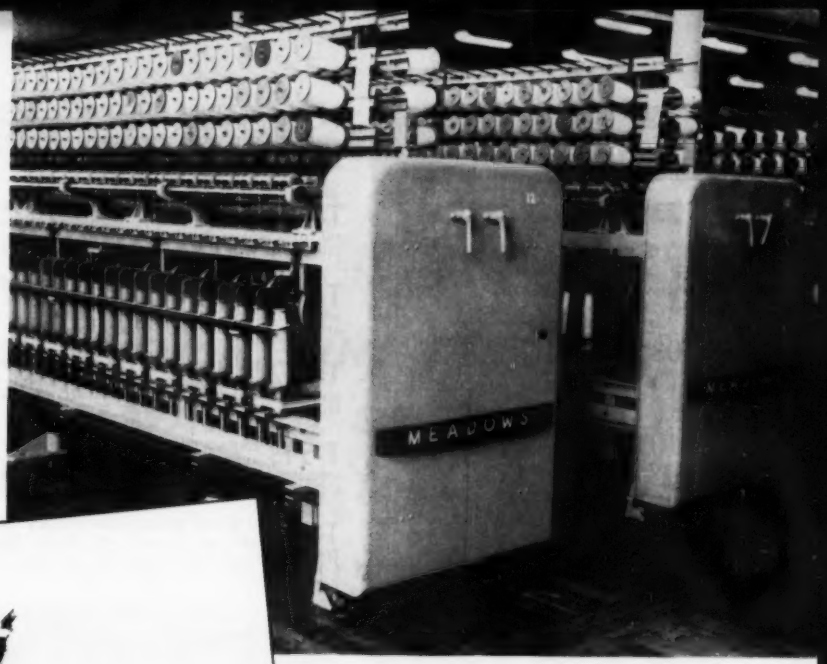

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FINE COMBED YARNS
20'S TO 80'S
CHINA GROVE, N.C.

August 5, 1959

Meadows Manufacturing Company
Murphy & Astor Avenues, S. W.
Atlanta 10, Georgia

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The anti-friction bearing design, lubrication, power, and maintenance costs attractively low. A surprisingly uniform twist is maintained at a relatively high speed on a 24 oz. yarn package.

A long range quality check on ends down indicate an approximate 25% reduction, and thus an equal improvement in quality from the standpoint of knots in three and four ply quality yarn. We are getting approximately the same production on these four twisters that we got on the six twisters which they replaced.

Meadows factory erection policy was particularly valuable to us in preventing a long and costly erection period and production bottle-neck. The frames were delivered assembled to the roll beams in two sections and were placed in production at a minimum assembly time.

We are very pleased with the speeds at which these twisters will run and the quality of work which we get from them.

Very truly yours,

CHINA GROVE COTTON MILLS COMPANY

C. J. Brawer
President

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25% fewer ends down . .

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BOOKLETS

T-508 PEROXIDE BLEACHING SYSTEM. Illustrates and describes this continuous system. E. I. du Pont de Nemours & Co., Electrochemical Dept., Wilmington, Del.

T-510 TEXTILE CHEMICALS. Describes leading products for wet processors. Royce Chemical Co., Carlton Hill, N. J.

T-512 DEPUMA. Describes odorless, viscous, non-evaporating emulsion for anti-foam. Koppers Co., Inc., Chemicals & Dyestuffs Div., 2010 Clarke Bldg., Pittsburgh 19, Pa.

T-513 CATALYST AC-6. Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

T-514 SODA ASH BULLETIN. Contains useful data covering this subject. Solvay Sales Division Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-516 ALUMINUM CHELATE PEA-1. Technical data sheet tells how aluminum Chelate PEA-1 may be used with advantage in many applications where aluminum is proplate is unsatisfactory. Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

T-517 CHEMICAL CATALOG. Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-519 HYDRAULIC POWER UNITS. Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 CUT WATER TREATMENT COSTS. Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

T-526 HYCAR LATICES. Physical properties and typical fields of application. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, O.

T-527 SODIUM HYDROSULFITE. Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

T-528 ETHANOLAMINES. Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-531 ROTARY DYEING MACHINE. For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

T-534 DYEING AND FINISHING MACHINERY. Complete line presented in series of catalogs. Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

T-535 DYEING, BLEACHING AND DRYING EQUIPMENT. Complete line for cotton, wool and synthetics described. Color pictures. Morton Machine Works, 1718 3rd Ave., Columbus, Ga.

T-536 NAPTHOL RATIOS SLIDE CHART. Quickly and accurately enables operators to determine Napthol Ratios. Alliance Color & Chemical Co., 33 Ave. P, Newark 5, New Jersey.

T-540 PENFORD FINISHING GUMS. Complete data, including physical properties. Penick & Ford Ltd., Inc., 750 Third Ave., New York 17, New York.

T-541 REGENERATION OF ZEOLITE WATER SOFTENERS. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 DYEING SYNTHETIC FIBERS. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 INDUSTRIAL BRUSHES. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 WASTE HEAT RECOVERY Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 WASHERS FOR SCOURING, BLEACHING, ACIDIFYING. Describes highcapacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 NAPHTHOL FOR LIGHTFAST BROWNS. Booklet describes new, straight, non-substantive naphthol, Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 SOFTENER, LUBRICANT, NAPPING AID. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-548 HANDBOOK ON METHOCEL. Gives technical information and use data on family of methylecellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

T-549 WALL CHARTS FOR HANDLING, TESTING H_2O_2. Two 16" x 21" wall charts available, one on handling and the other on testing H_2O_2. Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo 7, N. Y.

T-550 POLYVINYL ACETATE EMULSION. Bulletin contains a description of Celanese emulsions and cites advantages of Celanese polyvinyl acetate emulsions in textile finishing. Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2, N. J.

T-554 INSTRUMENT CATALOG. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

T-556 HUNTER DYEING EQUIPMENT. Describes fully with diagrams Hunter Model A Dye Becks, Hunter No/Lap Reels, Model S Dye Kettles, Open Width Dye Kettles, Sample Dye Kettles. James Hunter Machine Co., North Adams, Mass.

T-557 HIGH ACTIVITY CATALYST. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 CATIONIC DYE LEVELER. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-559 FLOW CONTROL Complete information on largest selection of values to handle flow control requirements. William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-561 PUMP POURABLE PASTES. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 POLYETHYLENE FINISHING AGENT. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

T-564 HYDROGEN PEROXIDE BLEACHING. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton, Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 ETHYLEX GUMS. Brochure describes properties of nydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-570 CARPET DRYERS. Details, pictures, drawings on driven roll, conveyor, and tenter types. Andrews and Goodrich Div., 336 Adams St., Boston Dorchester, Mass.

T-571 CHAINLESS MERCERIZING MACHINE. Two new bulletins provide complete information on the Benninger Chainless Mercerizing Machine for piece goods. H. W. Butterworth & Sons Co., Bethayres, Pa.

T-572 DYEING MACHINERY FOR EVERY PURPOSE. Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-576 YARN PREPARATION. Describes products for yarn preparation, printing, finishing. Polymer Industries, Springdale, Conn.

T-577 STAINLESS DRY CANS. Information on stainless steel, 75 psi, reverse dished, head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

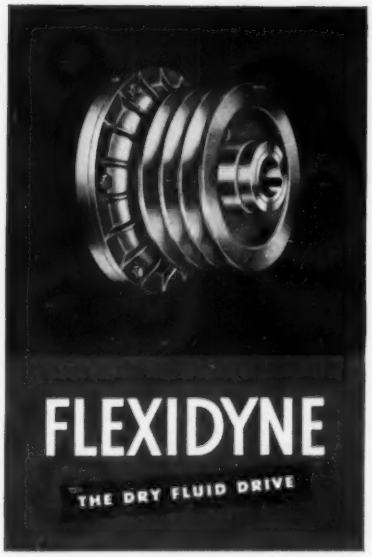
T-579 AUTOMATIC GUIDING EQUIPMENT. Catalog shows various types of automatic guiding equipment for accurate cloth guiding. Fife Mfg. Co., Inc., P. O. Box 9815, Oklahoma City, Okla.

fibers and yarns

T-601 FORTISAN-36, NEW TEXTILE FIBER. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 CAPROLAN NYLON HEAVY YARNS. Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

T-603 RAYON—MILE BY MILE. Details on how rayon is produced mile by mile, perfect inch by inch. Industrial Rayon Corp., 500 Fifth Avenue, New York 18, N. Y.



NEW DRIVE INSURES AMAZING SOFT STARTS FOR TEXTILE MACHINERY!

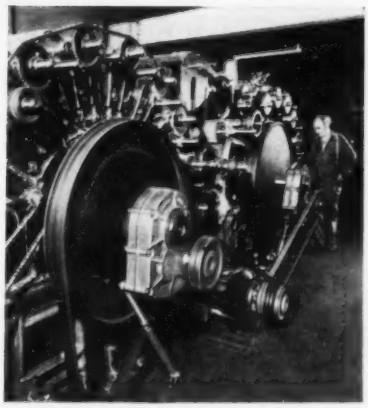
Flexidyne is an entirely new type of drive in which a dry flow charge of heat treated steel shot is employed to start loads *with fluid ease.* It accelerates quickly to full speed—and then operates *without slip at 100% efficiency.*

This revolutionary drive is being used with great success in:

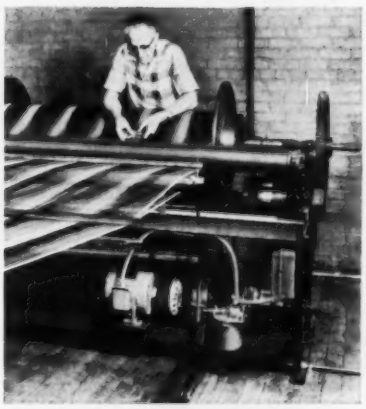
- cotton cards
- wool cards
- roving frames
- fly frames
- spinning frames
- slubbers
- openers
- tenter frames
- condensers
- extractors
- pickers
- beaters
- twisters
- warpers
- slashers
- cloth rolling heads
- cloth shearing machines
- and for synthetics, too

Ask your Dodge Transmissioneer for the full story. Or write us for Bulletin A-653.

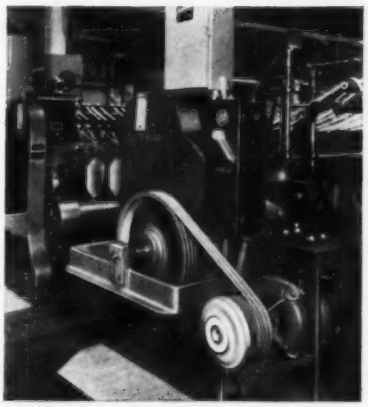
CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."



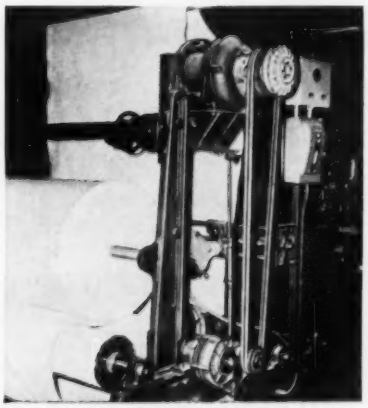
WOOL CARDS



LONG RAIL BEAM WARPERS



ROVING FRAMES



CORDUROY ROLLING HEADS

DODGE
of Mishawaka, Ind.

DODGE MANUFACTURING CORPORATION, 3500 Union Street, Mishawaka, Indiana

BOOKLETS

T-604 **THE CHEMSTRAND NYLON STORY.** Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 **COLOR-FAST FIBERS.** Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-606 **"DIAL-A-FIBER."** Ingenious circular chart indicates properties and compatabilities of "Uvitex" for application on natural and synthetic fibers. Ciba Co., Inc., Route 208, Fair Lawn, New Jersey.

T-607 **THE STORY ON LUREX.** Information on metallic yarns made with Mylar and how they are developed to broaden the scope of the tufted industry. Textile Fibers Dept., The Dow Chemical Co., James River Div., Williamsburg, Va.

T-608 **TASLAN TEXTURED YARNS.** Technical information on dyeing and finishing of new fabrics made with Taslan. E. I. du Pont de Nemours & Co., Wilmington 98, Delaware.

T-609 **PROCESSING NYLON STAPLE.** Data sheet describes method of processing Du Pont 42 Nylon Staple in blends with cotton. Covers complete operation through sizing. Bulletin N-93, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

laboratory

T-701 **TESTING INSTRUMENTS.** Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

T-703 **SHADOGRAPH WEIGHING DEVICES.** Pictures and information on various types of scales. Exact Weight Scale Co., Columbus 8, Ohio.

T-705 **STROBOTAC.** Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.

T-706 **YARN COUNT SCALE.** Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn number. Exact Weight Scale Co., Columbus 8, Ohio.

T-712 **AUTOMATIC MOISTURE CONTROL.** Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics. Hunter Controls, Inc., Div., James Hunter Machine Co., North Adams, Mass.

services for management

T-801 **FACTORING SERVICE.** Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

T-802 **NON-WOVEN FABRICS.** Report includes how non-woven fabrics are made, machinery involved, sample fabrics. Textile Fibers Dept., E. I. du-Pont de Nemours & Co., Inc., Wilmington 98, Del.

T-805 **PROFIT THROUGH FACTORING.** Brochure gives facts on the use of factoring as a modern plan for developing sound business growth and added profits. Walter E. Heller & Co., Dept. TI-2, 105 W. Adams St., Chicago 99, Ill.

T-807 **GROUP INSURANCE.** Information on how textile group insurance can insure the happiness of your employees and make for a better running mill. Provident Life and Accident Insurance Co., Group Dept., Chattanooga, Tenn.

T-808 **FACTORING.** Complete details on services offered as mill factors. L. F. Dommerich, 271 Madison Ave., New York, N. Y.

T-810 **THE WONALANCET WAY** is the title of an editorial booklet published five times a year dealing with current problems. Write Wonalancet Company, 128 Burke St., Nashua, N. H.

T-812 **BEECHCRAFTS AT WORK.** Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time and money. Write Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-818 **TEXTILE ENGINEERING.** Information on complete, integrated service covering every type of textile project. Robert & Co. Assoc., 96 Poplar St., N. W., Atlanta 3, Ga.

T-819 **ORGANIZED LUBRICATION PAYS.** Planning book entitled "Management Practices that Control Costs via Organized Lubrication" shows how to effect savings in five areas of plant operation. Available from Texaco, Inc., 135 E. 42nd St., New York 17, N. Y.

T-821 **INVENTORY CONTROL.** How a daily report of inventory condition mechanically produced on existing business machines showed a net direct payroll saving of more than 10,000 a year. Administrative Methods Dept., Werner Textile Consultants, 1430 Broadway, New York, N. Y.

plant operation

T-902 **BELT LACING EQUIPMENT.** Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

T-903 **"MOTOR SELECTOR."** How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

T-904 **GEARMOTORS, MOTORGEARS, AND FLUID DRIVES.** Catalog supplies complete information on double, triple, and quadruple reduction gearmotors and motorgears. Electrofluid and fluid drives are also explained. Link-Belt Company, Dept. PR, Prudential Plaza, Chicago 1, Illinois.

T-907 **WRAP UP LINT PROBLEMS.** Automatic lint filter removes lint from air, winds it into disposable roll. Bulletin 234, American Air Filter Co., 275 Central Ave., Louisville 8, Ky.

T-908 **TEXTILE MOTORS.** Bulletin describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

T-909 **COMPRESSORS.** WB two-stage water-cooled. Space-saving units require modest foundation up to 125 psi and 1150 cfm displacement. Bulletin WB-10. Gardner-Denver Company, Quincy, Illinois.

T-910 **MODERN LUBRICATION METHODS.** A report to management tells how modern lubrication methods can help save thousands of dollars in three major economic areas of textile plant management. Describes twelve operating advantages of automatic lubrication systems. Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.

T-911 **LEATHER BELTING.** Selection, installation, proper maintenance. Atlanta Belting Co., 508-510 Whitehall St., S. W., Atlanta, Ga.

T-912 **STORY OF NYLON BRISTLE.** Tells of discovery and production, with special attention to "Tynex," a form of nylon ideal for use in brushes. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-913 **"ONE-SHOT" LUBRICATORS** Bulletin describes wide field of application for one-shot lubricators on machines requiring closely controlled but infrequent oil feed. Bijur Lubricating Corporation, Rochelle Park, N. J.

T-914 **INDUSTRIAL GREASES.** Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

T-917 **BLOWERS AND EXHAUSTERS.** Full description, including detailed drawings. Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.

T-918 **PAINT STRIPPING BOOKLET** Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

T-921 **CATALOG OF NEEDLE BEARINGS.** Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

T-924 **BALL BEARINGS FOR TEXTILE MACHINERY.** Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

T-925 **LUBRICATION OF BEARINGS.** Helpful list of do's and don't to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

T-931 **NEW V-BELT DRIVES.** Bulletin contains information on selection and operation of V-belt drives. Covers all types of V-belt drives. Dodge Mfg. Corp., Mishawaka, Ind.

T-932 **SMOOTH ACCELERATION, DECELERATION.** Describes eddy-current equipment for smooth, stepless acceleration and deceleration Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wis.

T-933 **CATECHISM OF ELECTRIC MACHINERY.** Booklet contains complete technical treatise on various electrical machines. Electrical terms defined. Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago 5, Illinois.

T-937 **V-BELTS.** Tells how raw materials and finished belts are tested and inspected. Quality control and experimental production covered. Booklet 5-51107, Dept. 794, Goodyear Tire & Rubber Co., Akron 16, Ohio.

Recent developments

(from page 83)

to crocking and cold water bleeding are also improved and tensile strength loss is minimized.

Dyeing Dacron Tow by Pad-Fix Process. A new pad-fix method for obtaining level dyeings on Dacron tow has been developed by Du Pont. The tow is padded with a dye dispersion, placed in a dyeing machine, heated to dyeing temperature, and dyed in the usual manner. Claims are made for improved levelness, reduced dyeing time, improved quality, and better uniformity from lot to lot.

Precision - Instrument Cleaning Fabric. Offered by an English concern is a new open-mesh fabric composed of a filament "puffed" textured rayon yarn, providing increased absorbency with freedom from shedding or dusting. To eliminate danger of loose fibers during cutting of cleaning rags, cutting channels are provided along the warp and filling at 18" intervals.

Cold Bleaching of Cotton Goods. A West German company reports development of what is said to be the first range of equipment for continuous open-width bleaching of cotton piece goods in the cold state. Bleaching is carried out by a peroxide compound in combination with an undisclosed product. Advantages are said to be economy by elimination of steam, combining desizing with bleaching, and no danger of fabric damage after up to 48 hours of waiting time between impregnation and washing, and reduction in floor space required.

Wash-Wear Finish on Wool Fabrics. Wool Bureau reports that the Australian Commonwealth Scientific and Industrial Research Organization has developed a method to impart wash-wear characteristics to some wool clothes. Technique involves a preliminary treatment to liberate chlorine from a concentrated salt solution to eliminate felting shrinkage. Second step sets fabric flat by use of sodium bisulfate as a reducing agent. Claim trials on certain fabrics have demonstrated resistance to over 100 washings.

Insect Repellent. A process developed by a University of California entomologist involves the use of odorless and harmless antimetabolite compounds. These products are effective against larvae likely to attack fabrics by upsetting the digestive system and resulting in embryonic starvation. It is claimed that application may be during the dyeing of fabrics or to the finished fabrics.

Irradiation of Textiles. A German inventor has patented a process to bring irradiated materials in contact with dyestuffs or water-repellent compounds and also to control the heat effect in stretching synthetic fibers without polymerization.

for your convenience
SPRAY NOZZLES
and all related accessories for
HUMIDIFYING
from a single, dependable source
PRECISION PNEUMATIC ATOMIZING NOZZLES
ACCESSORIES SUCH AS AIR FILTERS, HUMIDISTATS, SOLENOID VALVES, PRESSURE REGULATORS
COMPACT HUMIDIFYING UNITS
For industrial installations of every size Spraying Systems offers all needed equipment . . . everything but the piping, wiring and compressor. Provides high efficiency, dependable system; only two components have moving parts. Engineered for easy installation and simplified maintenance.
WRITE FOR Bulletin 82 . . . spray nozzles, assemblies and parts for manual or automatic humidifying systems.
ALSO SUPPLIED . . . spray nozzles for evaporative condensers, air washers, cooling towers, spray ponds and roof cooling systems.
SPRAYING SYSTEMS CO.
3272 RANDOLPH STREET • BELLWOOD, ILLINOIS
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

PERSONAL NOTES

The Ware Shoals, S. C., division of Riegel Textile Corp. has promoted **M. G. Michael** to overseer of printing. He replaced **Don Gardner**, who resigned recently.

J. H. Stursberg of Livingston Worsted Mills has been named chairman of the executive committee of the board of directors, National Association of Wool Manufacturers. He succeeds **John H. McGowan**, Wyandotte Worsted Co., who continues as a vice-president and committee member.

James B. Ellis has joined the public relations staff of the American Cotton Manufacturers Institute. Previously associated with a Greenville, N. C., newspaper, he will be attached to the Charlotte office of ACMI.

** first with 13¾" ... then 21" and now 30" diameter forged heads*

MILTON BEAMS*
(for Nylon and rubber yarns)
GIVE YOU THE BIG BONUS OF

SUPER STRENGTH

The super strength of Milton's forged head Tricot and Raschel Beams is no idle claim—it's been proven by yarn producers, big mills and small mills alike!

They're light in weight, yet rugged in design to give true dimensional stability without objectionable deflection or distortion. Milton's forged, heat-treated aluminum alloy heads and extra heavy barrels become a one-piece beam by the continuous weld process first introduced in the field by Milton. Trapped ends of yarn or misalignment of keyways are eliminated because there are no mechanical joints!

You name the yarn . . . monofilament, fine denier, low turn or high twist—synthetics or rubber, Milton gives you true-running, well balanced beams to handle unprecedented yardages and extreme pressures!

WRITE FOR FREE BULLETINS . . . No. 59-A on Light Metal Beams and No. 54-S on Steel Beams. The Milton line includes warp beams for broad, narrow fabric, velvet and carpet looms, as well as light metal raschel, tricot and section beams.

Thirty Years of Dependability in Yarn Beams

MILTON MACHINE WORKS, INC.
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

Wallace Blakeslee, supervisor of thread testing, salvage, and complaints at the Willimantic, Conn., plant of The American Thread Co., has joined the cotton department in New York where he will learn to become a cotton classer. **George Gilbranson** succeeds Mr. Blakeslee. Other promotions include **Frederick Kilgus** to assistant overseer of the shuttle bobbin department and **Wm. Garmalinsky** to assistant overseer of the spun synthetics department.

The Institute of Textile Technology, Charlottesville, Va., recently named **Dr. Jack Compton** vice-president and director of research. Other promotions included **J. E. Dougherty** to director of mill liaison; **Dr. E. J. Bernet** to associate director of research, physics and engineering division; **Dr. W. H. Martin** to associate director of research, chemistry division; **N. L. Enrick** to associate director of research, operations research division; and **W. C. Harris** to chairman of the committee on academic studies.

Chicopee Manufacturing Corp. and Chicopee Mills, Inc. have announced the election of **John J. Smith** as president of both firms, succeeding **Thomas O. Boucher** who has been named to the Johnson & Johnson board of directors and to the firm's executive committee. Mr. Smith had been vice-president of Chicopee's non-woven fabrics division since 1954.

Wesley W. Gregory has been made assistant secretary of La France Industries, Inc., and Pendleton Manufacturing Co. He will make his headquarters in Anderson, S. C.

Lowell Technological Institute has made **Dr. Melvin Mark** dean of faculty. Dr. Mark first joined LTI as professor in the department of textile engineering.

Frank E. Masland, Jr., president of C. H. Masland & Sons, Carlisle, Pa., has been elected chairman of the advisory board on National Parks, Historic Sites, Buildings and Monuments of the U. S. Department of the Interior.

Atwater Throwing Co., a division of Hess, Goldsmith & Co., Inc., has chosen **Edward J. Schellenberg, Jr.**, to succeed his father, the late Edward J. Schellenberg, Sr., as president of the firm. **Robert P. Schellenberg** has been appointed vice-president.

Mr. Keeble
Callaway Mills

Mr. Williamson
Callaway Mills

Callaway Mills Co., LaGrange, Ga., has named **F. Murry Williamson** head of the textile unit in the research and development division. * * * At the Hillside plant **C. Wayne Keeble** has been promoted to supervisor of designing.

Prof. Thomas A. Campbell, Jr., has been appointed head of the textile management department at Clemson (S. C.) College. Prof. Campbell has been a member of the school of textiles faculty since 1937.

The following promotions have been made known by the American Thread Company's spun synthetics division: **C. B. Little** to coordinator of production, purchasing, and product development; **H. S. Verrill** to superintendent in charge of manufacturing, and **Frederick Ellis** to assistant superintendent of cotton finishing.

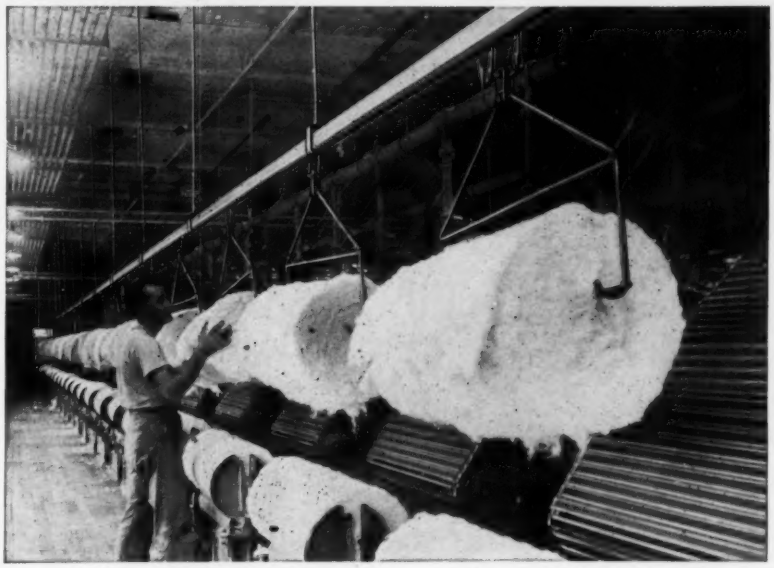
G. Dent Mangum, Jr., has resigned his position as research coordinator in the school of textiles at North Carolina State College to accept a position as vice-president and director of research for National Textile Research, Inc., of Durham.

H. C. Estes, vice-president and resident manager of Rhodhiss (N. C.) Mills of the Pacific Mills Div. of Burlington Industries, Inc., is on leave of absence because of ill health. Succeeding him is **W. L. Craven** who was formerly a division manager in Burlington's Greensboro office. * * * **Joseph H. Hamilton,** manager of Burlington Throwing Co. since 1956, has been named president. **Fred T. Pugh, Sr.,** has become vice-president in charge of manufacturing. * * * **Henry A. Millis** has been appointed vice-president of Burlington Hosiery Co. in charge of the men's and children's hosiery division, with headquarters in Asheboro, N. C.

Joseph H. Wright, 2nd, president, general manager, and a member of

. . . for a new textile plant going into production

or the expansion of present production lines



R-W "Zig-Zag"® CONTINUOUS POWER CONVEYORS

provide maximum efficiency and economy

R-W "ZIG-ZAG" Conveyors effectively meet the demands of today's highly competitive textile market by efficiently utilizing valuable overhead space to provide a continuous flow of materials for maximum production. R-W "ZIG-ZAG" Conveyors are extremely flexible . . . easily move up, down, in, out and around . . . carry unit loads up to 125 lbs. at speeds from one inch to 100 feet per minute. R-W "ZIG-ZAG" Conveyor systems may be quickly and easily altered, expanded or relocated by plant personnel. "ZIG-ZAG" Conveyors are designed, manufactured and backed by the leading firm in this field for over 75 years . . . Richards-Wilcox.

"Zig-Zag" QUALITY FEATURES

- **SAFE** . . . all moving parts of the chain are fully enclosed and protected from lint, dirt and dust.
- **STRONG** . . . a continuous chain of alternate horizontal and vertical wheel units travel through a rugged steel track.
- **FLEXIBLE** . . . easily installed in any plant. Easily changed or relocated to meet any plant alterations or requirements.
- **ECONOMICAL** to purchase, install and operate.
- **SPACE SAVING** . . . available with standard horizontal or vertical curves . . . two foot radius (others available).

WRITE TODAY for complete information Request Catalog No. A-93R

Leading manufacturer of Track Hangers, all types of hardware and Electric Door Operators for over 75 years.

Richards-Wilcox
MANUFACTURING COMPANY
MATERIAL HANDLING DIVISION

440 W. THIRD STREET, AURORA, ILLINOIS • Branches in Principal Cities

PERSONAL NOTES

(from page 187)

the board of Davenport Hosiery Mills, Inc., Chattanooga, Tenn., has been named managing director of the women's hosiery division of Chadbourn Gotham, Inc., with responsibility for manufacturing and distribution of full-fashioned and seamless stockings in the U. S. and Canada. Mr. Wright continues as head of Davenport also.

Reeves Bros., Inc., has named **Joe D. Moore** vice-president in charge of the company's entire textile manufacturing and finishing operations, with headquarters at Reeves' main mill office in Spartanburg, S. C.

Harker Collins, formerly vice-president, has been elected president of Vanette Hosiery Mills, Dallas, Texas. **J. O. Davis** and **F. W. Burnett,** president and vice-president respectively, have retired.

R. E. Hamilton, secretary of Cabin Crafts, Inc., Dalton, Ga., has been elected executive vice-president of

Mr. Hamilton

the Tufted Textile Manufacturers Association. He succeeds the late Henry Ball.

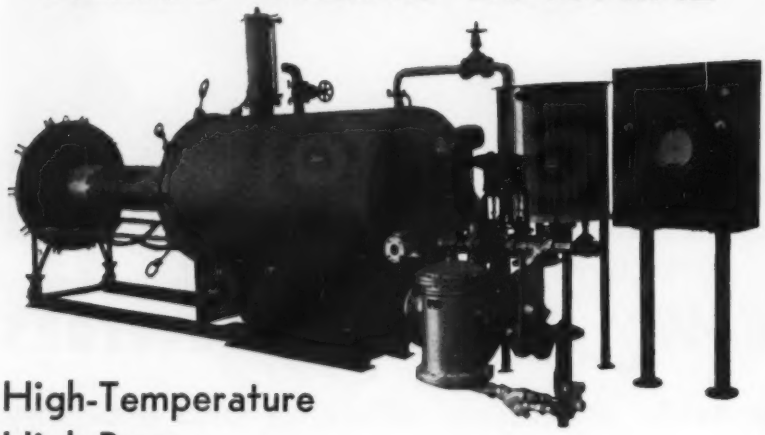
Carolina Fine Fabrics, Inc., Hickory, N. C., has named **James Burgess** as treasurer and general manager, succeeding **R. H. McComb** who has resigned. **E. P. Schrum** is the new secretary.

The following organizational changes have been announced by The Greenville, S. C., group of J. P. Stevens & Co., Inc., cotton division: **Edward H. Stall** has been named general superintendent of the Apalache, Jonesville, and Piedmont, S. C., plants, succeeding **Paul W. Nipper, Jr.,** who has been made manager of the Borden plant at Kingsport, Tenn. **A. C. Taylor,** formerly plant engineer at Piedmont, has been promoted to superintendent of the Apalache plant.

Dr. James H. Wakelin, a former director of research at Textile Research Institute, has been appointed Assistant Secretary of the Navy—Research and Development. * * * **Dr. Norman C. Armitage** of Deering Milliken Research Corp., formerly vice-chairman, has been named chairman of the Institute's general research advisory committee to fill the unexpired term of Dr. Wayne A. Sisson of American Viscose Corp. who resigned. **Edward W. Lawrence** of Cranston Print Works Co. was elected vice-chairman. * * * **Julian S. Jacobs,** former director of publications and editor of the "Textile Research Journal," has been unanimously elected to honorary membership of The Council of The Textile Institute at Manchester, England.

Clark Hayden, formerly associated with Piermont Finishing Co., has joined the Waumbec Dyeing and

HIGH TEMPERATURE FABRIC DYEING MACHINE



High-Temperature High-Pressure

This machine is designed to dye open-width woven fabrics made of synthetic fibers and blends of natural and synthetic fibers that require high temperature-high pressure procedures for good dyeing results. Certain synthetic fabrics are HEAT SET during dyeing thus eliminating an additional process for this purpose.

Machine can be supplied with one-way or two-way flow according to customer specifications. Machine capacity is for cloth up to 120" wide and up to 2,500 yards in length.

OUTSTANDING *NEW* FEATURES

AUTOMATIC HEATING AND COOLING—The exchanger is equipped with automatic steam and water valves so that the temperature controller maintains temperature setting at all times.

STATIC PRESSURE CHAMBER—Compressed air is injected into dyeing vessel to provide a static pressure cushion which allows the dye pump to maintain a constant flow.

RUNNING WASH SYSTEM—Clean water is fed to the dye pump from the expansion tank through large pipe line. The wash water is forced through the dye pump from the expansion tank through large pipe line. The wash water is forced through the dye beam and exhausted to drain sewer.

COMPLETELY AUTOMATIC FLOW CONTROL—Desired dyeing pressure is pre-set on control panel, pump is started and pressure is then maintained at set point throughout the entire dyeing cycle. Flow control valve is always closed when dye pump is not running and it is also closed during reversal periods. The valve closes slowly before the flow is reversed from 'outside-in' to 'inside-out' or vice versa, by the 4-way reversing valve. After the flow is reversed the flow control valve opens slowly. This eliminates surges which disturbs the position of the cloth on the dye beam.

AUTOMATIC BEAM REVOLVING DEVICE—The dye beam is revolved by a constant speed driving mechanism and this assures even penetration during the scouring and dyeing cycles. This feature minimizes shading and produces level dyeing from end to end of the dye beam.

GASTON COUNTY DYEING MACHINE CO.

Stanley North Carolina

Gaston County Dyeing Machine Co. Terminal Bldg., 68 Hudson St. Hoboken, N. J., G. Lindner, Mgr.

A. R. Breen 80 E. Jackson Blvd. Chicago, Ill.

Albert P. March Whitemarsh, Pa. Phila. Adams 3-2001

The Rudel Machinery Co., Ltd. 614 St. James St.,W., Montreal 260 Fleet St. E., Toronto

News about

B.F.Goodrich Chemical *raw materials*

Hycar helps the hunt for new markets,

shows how to improve lofty constructions

Washable and dry cleanable insulated apparel is just one example of the growth market in lofty constructions getting a boost from formulations for spray bonding based on Hycar nitrile latex. Lofty interliner constructions made by spraying with Hycar have excellent resilience and dimensional stability. The problem of shifting or leakage of fiber is minimized.

Even the smaller regional manufacturer may profitably adapt his operations to the production of Hycar spray-bonded battings. Since existing equipment is frequently sufficient, only small additions involving spray and heating equipment may be required.

It may pay off in increased profits to get the complete story of how Hycar nitrile latex can help produce better non-wovens. Here's another example of the service you can get to produce better textiles, for wider appeal, at lower costs. For information, write Dept. EA-4, B.F.Goodrich Chemical Company, 3135 Euclid Avenue, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

PRODUCTS FOR TEXTILE IMPROVEMENT

B.F.Goodrich Chemical Company
a division of The B.F.Goodrich Company

B.F.Goodrich

GEON polyvinyl materials • HYCAR rubber and latex
GOOD-RITE chemicals and plasticizers • HARMON colors

PERSONAL NOTES

(from page 188)

Finishing Co., Manchester, N. H., in the capacity of general manager.

George W. Johnson has assumed the duties of assistant overseer in the winding and weaving departments of the Asbeston Plant of United States Rubber Co., Hogansville, Ga.

Dixie Mercerizing Co. has named **Robert P. Cochran** assistant general manager of manufacturing. * * * Recently named general manager of manufacturing of Candlewick Yarn Mills, a Dixie subsidiary, was **Dan Hurst**, formerly manager of American Thread Company's Georgia plants.

Greenwood (S. C.) Mills has announced the following promotions: **A. L. Strawn** to general superintendent of the Ninety Six, Durst, and Greenwood plants; **R. A. Liner** to general superintendent of the Mathews and Harris plants; **R. M. Yonce** to superintendent and **Holloway S. Buzhardt** to assistant of the Ninety Six plant; **James Harold Cooper** to overseer of carding at the Matthews plant, succeeding Mr. Buzhardt.

A. C. Stewart has been elected treasurer of Collins & Aikman Corp. Formerly assistant treasurer, he succeeds **Charles M. Willon** who has retired after having been with the firm for 37 years. Mr. Willon will continue as a director.

Mr. Stewart

H. Eugene LeGrand, formerly production manager at Shelby (N. C.) Cotton Mills, has accepted a position with Fiber Industries, Inc.

Walter Bollier has been elected to the newly created post of board chairman of the Phoenix Silk Corp., Allentown, Pa. At the same time **Clarence M. Smith** was named president.

Dan River Mills, Inc., Danville, Va., has named **Leigh Taylor** assistant to Basil D. Browder, executive secretary. Mr. Taylor was formerly in charge of industrial relations at Dan River.

James D. Hammett, formerly vice-president of Chiquola Manufacturing Co., has assumed his new duties as director of waste sales, personnel, and public relations for M. Lowenstein & Sons, Inc., cotton mills, with headquarters in Anderson, S. C.

At Judson Mills, Greenville, S. C., **Max Whaley** has been promoted to superintendent of the cotton division and **W. H. Moore** to superintendent of the synthetic division. Mr. Moore succeeded **J. Clyde Simmons** who is now plant manager at Kingsley Mill, Thomson, Ga.

William M. Klothe has been elected to the presidency of The Pellon Corporation. He also has been appointed to the board of directors. Since 1957 Mr. Klothe served as vice-president in charge of sales.

John L. Thompson, formerly on the faculty of the School of Textiles of Clemson (S. C.) College, has been named head of central rechecking for the fabric production division of United Merchants & Manufacturers, Inc. In this capacity Mr. Thompson will head the quality control measures in the division's plants which are located in the southeast and in Canada.

Mr. Thompson

George L. Robertson, Jr., and **Carl E. Wiggers** of the napping department of Cone Mills Corp.'s Carlisle, S. C., finishing plant have been promoted to supervisory positions. Also, **James E. Faulkner** of the bleachery was made supervisor.

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OBITUARIES

Alvin C. Barber, vice-president and secretary of the American Silk Council, Inc., New York, N. Y.

John P. Batson, 56, president of fhe Batson Manufacturing Co. and John P. Batson Co., Greenville, S. C.

Percy W. Ellis, 70, Atkinson-Haserick & Co., Greenville, S. C.

Rudolph M. Hurschwald, 67, president of Sanson Hosiery Mills, Inc., Philadelphia, Pa.

Patrick T. Jackson, 87, retired textile executive and founder of the American Sisalkraft Corp., Attleboro, Mass.

Edward Preston Lea, 80, Quogue, N. Y., retired vice-president and director of Riegel Textile Corp.

James F. Malcolm, 80, founder and chairman of the board of Revonah Spinning mills, Hanover, Pa.

George E. Marble, 81, St. Petersburg, Fla., retired vice-president of Curtis & Marble, Inc.

James L. Morrison, 85, president of Morrison Machine Co., Paterson, N. J.

Homer Lee Pruitt, 75, Greenville, S. C., retired general manager of Ottaray and Haynesworth Mills.

Wert B. Rhyne, textile executive, Cherryville, N. C.

Frank J. Rogler, 80, Providence, R. I., retired superintendent of the former Colored Worsted Mill.

Armin Rosenberg, 82, Milwaukee, Wis., president of Reliable Knitting Works.

Sidney Sargent, 58, retired general manager of Scola Piece Dye Works, Hawthorne, N. J.

Edward J. Schellenberg, 72, president of Atwater Throwing Co., Plymouth, Pa.

Elijah Kent Swift, 80, chairman of the board of Whitin Machine Works.

Lewis A. Weiner, 81, former president of Texstyle Corp. and Commercial Sales Co., Paterson, N. J.

Harry J. Wright, 86, former president of Mayfield (Ky.) Woolen Mills.

SUPPLIER NOTES

Herbert Kishbaugh has been appointed manager of the New York sales branch of the Solvay Process Division of **Allied Chemical Corp.,** succeeding Fred H. Harris who has retired.

The appointment of C. Perry Clanton, Jr., as district sales manager has been announced by **Atkinson, Haserick & Co., Inc.** In his new capacity Mr. Clanton is responsible for the states of North Carolina, Virginia, Tennessee, and Texas. Harvey H. Clinch has been made district sales manager for the states of South Carolina, Alabama, Georgia, and Mississippi. F. Eugene Bozeman has been given the new position of technical service manager in all of the southeastern states. All of these men have headquarters in the Greenville, S. C., office of Atkinson, Haserick.

Dayton Industrial Products Company, a division of **The Dayton Rubber Co.,** has named A. L. Schriml product sales manager for a new line of poly-V drives.

Raybestos-Manhattan, Inc., has announced changes in its industrial rubber products and packings division as follows: R. B. Parks, assistant sales manager, S. J. Synnott, general marketing manager, H. J. Seeley, marketing manager for poly-V drives and flat transmission belts, A. Arguedas for conveyor and elevator belts, J. J. Connors, for rubber covered rolls, G. E. Horvath, marketing manager of mechanical packings, R. E. Stiles, San Francisco district manager, and N. L. Rush, Minneapolis district manager.

Continued on page 192

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and
MACHINERY
DAMAGE
with
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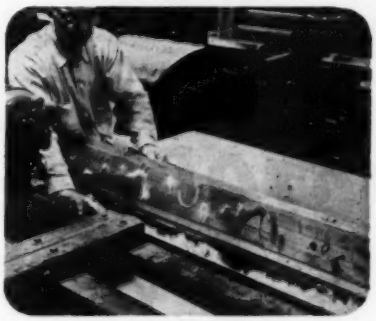

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Completely non-electric; no wires, attachments or fuses. No operating or maintenance costs. Self-contained; quickly and easily installed. Magnetic strength is guaranteed indefinitely.

GET ALL THE FACTS . . . WRITE TODAY.
Eriez Mfg. Co., 72-W Magnet Dr., Erie, Pa.

ERIEZ

SUPPLIER NOTES

(from page 191)

The National Drying Machinery Co. has announced the appointment of **Hayes Textiles, Inc.**, Spartanburg, S. C., as southern agent for sales of "National" drying and conditioning equipment.

T. Earl Snyder, formerly with Erlanger Mills, Inc., has joined **Stein Hall & Co., Inc.**, as a textile specialty salesman in their Charlotte branch sales office. He will service the grey mill industry in both North and South Carolina.

Synthane Corporation has named Francis W. Hansell to its Philadelphia district sales staff. He will cover greater Philadelphia and South Jersey in his new assignment.

Wilcox & Gibbs Sewing Machine Company has announced the retirement of George Tobey as advertising manager. Stanley Waitzman, formerly in the Chadbourn-Gotham marketing department, has been named marketing coordinator. James Farrell, who covered the Manhattan territory for the sewing machine division, has been appointed sales promotion coordinator.

Dr. Dean A. Bixler has been appointed to the newly created post of

Dr. Bixler

research director of **Moretex Chemical Products, Inc.**

W. F. Fancourt Co. has announced the election of Robert Rhodes, formerly a district sales manager, as assistant secretary and director.

Textile Machine Works has been appointed exclusive sales agent in Latin America for the Paris Sweater Finisher, a machine that automatically frames and presses sweaters to exact size.

Charles P. Bertland, vice-president, marketing, Fiber Division, **Beaunit Mills, Inc.**, has announced the following changes in the organization's sales management alignment: James C. Fortune, formerly sales manager of American Bemberg, has been appointed director of merchandising, in charge of the merchandising, advertising, and promotion of all fibers. Richard I. DeVine continues as sales manager of all viscose fibers for tires, industrial purposes, and general textile uses. Elonzo T. Nave has been designated director of yarn and fabric development for all fibers. Victor Bez, formerly senior sales representative in the Metropolitan area, is now product manager for Bemberg fibers. James N. McDonald, formerly in the sales service department at Elizabethton, Tenn., has been transferred to New York, where he is product manager for polyester and other noncellulosic fibers. All of these sales executives have headquarters at Beaunit Mills' main offices in New York City.

Three appointments in the **A. E. Staley Manufacturing Co.** industrial sales organization have been announced. John P. Bolas has been named assistant manager in the Philadelphia branch office, Robert E. Smith has become sales representative in the Chicago area, and John W. Lusk, Jr., takes on new territorial responsibilities in the Boston office.

American Enka Corporation observed its 30th anniversary of production on July 1. * * * Standish W. Holmes has been named merchandising director and Jay Kaner has been made advertising and merchandising manager in the New York office.

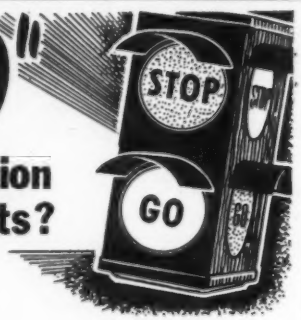
According to a recent announcement from **American Viscose Corporation**, Charles W. Davies has been named assistant to J. Reid Durbin, district sales manager in the Charlotte, N. C., sales office.

W. L. Whisnant has resigned his position of district sales manager of the Carolinas division, **Seydel-Woolley & Company**, due to ill health.

Whiting Products has named Horace L. Short, Gastonia, N. C., as representative in North and South Carolina.

Monsanto Chemical Company has announced completion of expansion of silica production facilities at its Everett, Mass., plant. Operated by the company's Inorganic Chemicals Divi-

IS "STOP and GO" Production Robbing You of Profits?



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sion, the plant produces colloidal dispersions of silica in water used on textile fibers for improvement of spinning efficiency.

Lawrence Katz, president and chairman of the board of **Fidelity Machine Company, Inc.**, has been elected to the board of trustees of the Philadelphia Textile Institute.

Industrial Rayon Corp. has elected Frederick L. Bissinger to the newly created position of vice-president and general manager.

Ralph Petree and Edward McLean have joined the sales staff of **Arnold, Hoffman & Co., Inc.**

Rudolph Berthoud, formerly with the **Ciba Co., Inc.** parent organization in Basle, Switzerland, has been appointed field supervisor for chemical specialties sales. Mr. Berthoud is located at the new headquarters building at Fair Lawn, N. J.

Charles A. Haynes, operations manager, has been elected vice-president of **Howard Brothers Manufacturing Co.**

Major General Marshall S. Roth has been elected vice-president of the **Richards-Wilcox Manufacturing Co.**

Celanese Corporation of America has organized three new companies to administer the manufacture and marketing of its fiber, chemical, and plastics products. Celanese Fibers Co., Celanese Chemical Co., and Celanese Plastics Co. will function as operating divisions of the parent firm. John W. Brooks is president of Celanese Fibers Co. and Richard W. KixMiller is president of Celanese Chemical Co. and Celanese Plastics Co. * * * Harold Blancke has been elected chairman and George Schneider vice-chairman of Celanese Corp. of America. Mr. Blancke is president and will continue to serve as the company's chief executive officer.

Automatic feeding and fastening machines for affixing "Hook Flex" closures to clothing will be manufactured, sold, leased, and serviced by the Industrial Sales Department of **Singer Sewing Machine Co.** The equipment consists of a complete individual production unit setup which includes a set of two automatic machines, one for hook setting, the other for eye setting.

Wesley M. Garrett has joined the Charlotte, N. C., office of **Geigy Dyestuffs** Division of Geigy Chemical Corp. Mr. Garrett will serve as a technical representative in the South on textile printing.

Mr. Garrett

Mr. Steeves

Ray Steeves has been appointed to the sales and technical staff of **Metro-Atlantic, Inc.** He will service accounts over the entire northern area from his headquarters at the main laboratory in Centredale, R. I. * * * Alfred N. Henschel has been appointed supervisor of the textile auxiliary application laboratories at the company's main application laboratories in Centredale, R. I. * * * Joseph R. Gimeli has joined Metro-Atlantic, Inc. as assistant to Edward Starke, director of merchandising.

Air Express International Corp. has placed in effect a Memorandum Tariff which offers door-to-door rates on air shipments of textiles between New York/Newark and all points in Switzerland. This is the first of a series of Memorandum Tariffs which the air freight forwarding organization will introduce to international shippers. The tariff enables the importer of textiles to know at a glance the exact total cost of his shipment with the sole exception of the duty. It is applicable to eastbound and westbound consignments and is limited to shipments with a maximum customs value of $250 each.

R. A. Haworth has been named apparatus sales manager at **Cutler-Hammer Inc.**, having his headquarters in Milwaukee. Formerly manager of the company's midwest sales region, Mr. Haworth fills a position vacated by E. B. Fitzgerald, who is now vice-president in charge of engineering. * * * T. R. Christian, formerly Kansas City, Mo., district manager of Cutler-Hammer Inc., has been moved to Atlanta, Ga., to manage sales in that district. Replacing Mr. Christian is K. L. Smith of the firm's Grand Rapids, Mich., branch

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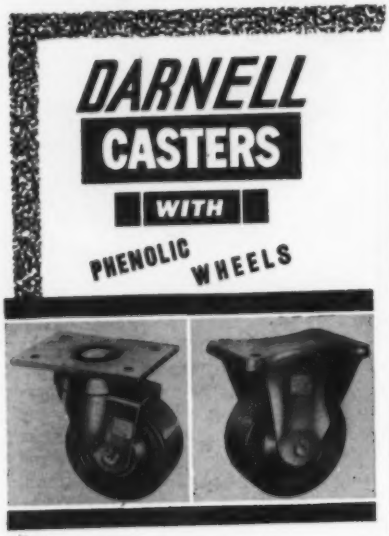

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SUPPLIER NOTES

(from page 193)

which is now headed by K. A. Krug of the Milwaukee office.

Steel Heddle Manufacturing Co. has announced the relocation of its bobbin plant from Greensboro, N. C., to its Southern Shuttles Division at Greenville, S. C. The division will be known as Stedco Bobbin Division of Steel Heddle Manufacturing Co., with all manufacturing done in the same plant. Sales representatives for the

Mr. Dunson

Mr. White

Mr. New

bobbin division are: South Carolina —R. M. "Mike" Turner of Clinton, S. C., and W. B. "Brad" Dunson of Dunson & New, Inc., Greenville, S. C.; for North Carolina, Virginia, and Tennessee — Floyd New of Dunson & New, Inc., Greensboro, N. C., and C. H. "Chal" White of Charlotte, N. C.; for Georgia and Alabama—Hugh K. Smith of Smith, Crawford & Teat, West Point, Ga.

John G. Broughton, Jr., has been appointed to the newly-created position of field sales manager of the organic chemicals div., **Dewey & Almy Chemical Division,** W. R. Grace & Co. He will have charge of the national sales force from the Cambridge headquarters. Succeeding Mr. Broughton as eastern manager with headquarters in Clifton, N. J., is Arthur D. Partrick. Amos J. Miner has been appointed midwest regional sales manager at Chicago.

A general contract for the construction of a multimillion dollar research center has been awarded by **Diamond Alkali Co.** The new facility will be located in Concord Township, Ohio.

Gwilym A. Price has been elected chairman of the board of **Westinghouse Electric Corp.,** and Mark W. Cresap, Jr., has been named president and chief executive officer.

The Harris Research Laboratories, Inc., recently opened new quarters at 6220 Kansas Ave., N. E., Washington 11, D. C. Their activities include research and development in fiber chemistry and its correlation with properties, polymer studies, textile wet processing, fabric structure, chemical modification to alter functional properties including wash-and-wear, comfort in clothing, detergency, and other related areas.

Textile Machine Works has transferred its **Arrow Needle Co.** operations to the Reading, Pa., plant. The unit will be integrated with Textile's wire products division under Lester Yeager, manager.

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THE LOCATION of the SYNTHETIC-FIBER INDUSTRY

A Case Study in Regional Analysis
By JOSEPH AIROV, Emory University. A case study in the regional economic analysis of factory location. Three major aims: 1) covers present location pattern of the industry within the U.S.; 2) forecasts regional growth in terms of employment and capital investment; 3) evaluates Puerto Rico as a location for synthetic fiber production. A Technology Press Book, M.I.T.

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Frank B. Grimes has been appointed sales manager of the corrugated container plant which is being constructed in Spartanburg, S. C., for **Union Bag-Camp Paper Corp.**

An electronic control system has been placed in operation at Yale Materials Handling Div., **The Yale & Towne Mfg. Co.,** for the purpose of insuring adequate decentralized stocks and fast deliveries of replacement parts to Yale industrial lift truck users and franchised representatives.

Robert G. Perriello has been appointed vice-president and general manager of the **Gagliardi Research Corp.** In this position, Mr. Perriello will be responsible for the general business management of G. R. C. and its affiliate, the GRC Testing Co., Inc., as well as for market development and sales planning services for the firm's clients on new products and processes developed in its laboratories.

Employees of the Chattanooga nylon plant of **E. I. du Pont de Nemours & Co., Inc.,** have been presented the National Safety Council's "Award of Honor" for having established a new world's record for industrial safety. They have amassed more than 28,750,000 man hours on the job without a single lost-time injury. * * * Kirk P. Ferguson has been named manager of the New York district office of the Dyes and Chemicals Division. He suceeds Sidney M. Conn who has retired.

John C. Holmes has been appointed West Coast sales representative to the textile and leather industries by the chemical division of **Minnesota Mining & Manufacturing Co.** He will call on mills, manufacturers, finishers, and key retail establishments in California, Oregon, and Washington.

Johnson Motor Lines, Inc. and **Atlantic States Motor Lines, Inc.** have appointed Richard K. Thompson sales representative in Greenville, S. C., and Edward Warren Campbell sales representative in Charlotte, N. C. Operating under single management, both companies are headquartered in Charlotte. * * * L. M. Calhoun has become district sales manager of the Greenville, S. C., area for Johnson Motor Lines, Inc. He will also represent Atlantic States Motor Lines, Inc., in the area. Jimmie O. Newton is the new district sales manager for the two firms in the Charlotte, N. C., area.

James K. Ames has been appointed to the newly-created position

Mr. Ames

of manager of field sales, **Colton Chemical Company,** a division of Air Reduction Co., Inc. Mr. Ames will direct the field sales force from his headquarters in Cleveland, Ohio.

The appointment of A. Howard Stuewe as technical manager of the Foreign Department-Industrial at Newark has been announced by **Nopco Chemical Company.** Mr. Stuewe replaces Dr. John E. Ward, who has been named resident man-

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RIBBON TYPE FILTERING UNIT removes solids .00039 and larger. Transparent plastic bowl makes filtered foreign matter visible. Gives maximum protection to all types of Lint blowers, Blow-off Hoses and various air-operated controls.

The TRAP ejects water automatically. Operates upon accumulation of 3 to 4 ounces. Discharges in less than 5 seconds. Assures dry air in pneumatic system at all times. Non-corrosive throughout.

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Donald Gallagher, General Manager.

SUPPLIER NOTES

(from page 195)

ager of Nopco Chimie S. A., Fribourg, Switzerland. Mr. Stuewe will be responsible for the development and marketing of new products and the expansion of Nopco business in Mexico and in Central and South American markets.

J. Woodward Hubbard, formerly general sales manager of the textile

Mr. Hubbard

machinery division of **Saco-Lowell Shops,** has been promoted to vice-president, sales. * * * At the Maiden, N. C., plant of Carolina Mills, installation of ten 13½" x 7" FS-2 roving frames was recently completed. Carolina Mills has placed an order with Saco-Lowell for 72 18" x 42" card coilers, 36 deliveries of Versa-Matic drawing, four 13½" x 7" FS-2 roving frames, and 60 SJ-3H spinning frames. It is understood that this equipment will be used at Carolina's recently acquired plant in Lincolnton, N. C., which was formerly known as the Glenn Mills. * * * Parkdale Mills, Gastonia, N. C., has ordered 21 Model 57 combers, 56 deliveries of Versa-Matic drawing, and 20 11" x 5⅛" FS-2 roving frames.

Morris Speizman Co., Inc., has purchased an adjoining building in order to expand their manufacturing and engineering departments. * * * Herbert B. Lockwood has joined the firm as controller.

Fiber Controls Corp. has appointed **Parrott and Ballentine, Inc.,** Greenville, S. C., as exclusive sales agents for the U. S. with sales engineers located at Burlington, N. C., Greenville, S. C., and Newnan, Ga.

A ten million pound-per-year polypropylene film plant will be built on a 214-acre site near New Castle, Del., for **AviSun Corp.,** the equally-owned affiliate of American Viscose Corp. and Sun Oil Co. Completion is anticipated by early fall. A pilot plant for manufacturing polypropylene continuous filament and staple fibers will also be erected at the New Castle location.

H. Elliott Batson, formerly executive vice-president, has been elected

Mr. Batson

president of the **Louis P. Batson Co.** He succeeds Louis P. Batson, Jr., who has been made chairman of the board.

W. L. Clayton, one of the founders of **Anderson, Clayton & Co.,** has resumed his membership on the board of directors.

Harrison M. Gorton, Jr., has been appointed eastern district sales manager for the chemicals and dyestuffs division of **Koppers Company, Inc.**

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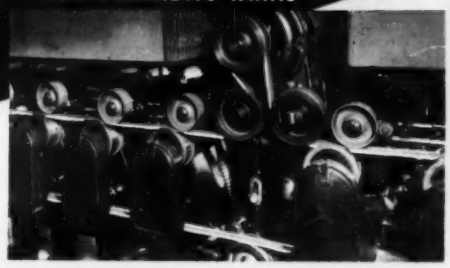

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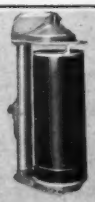

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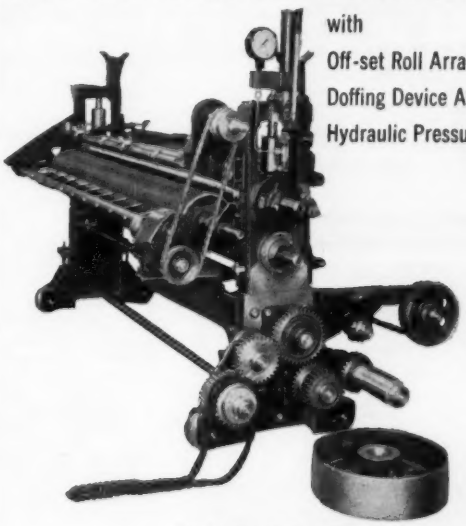

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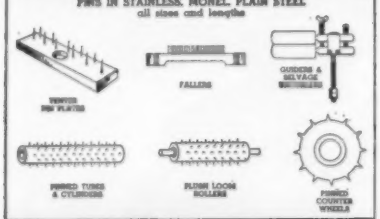

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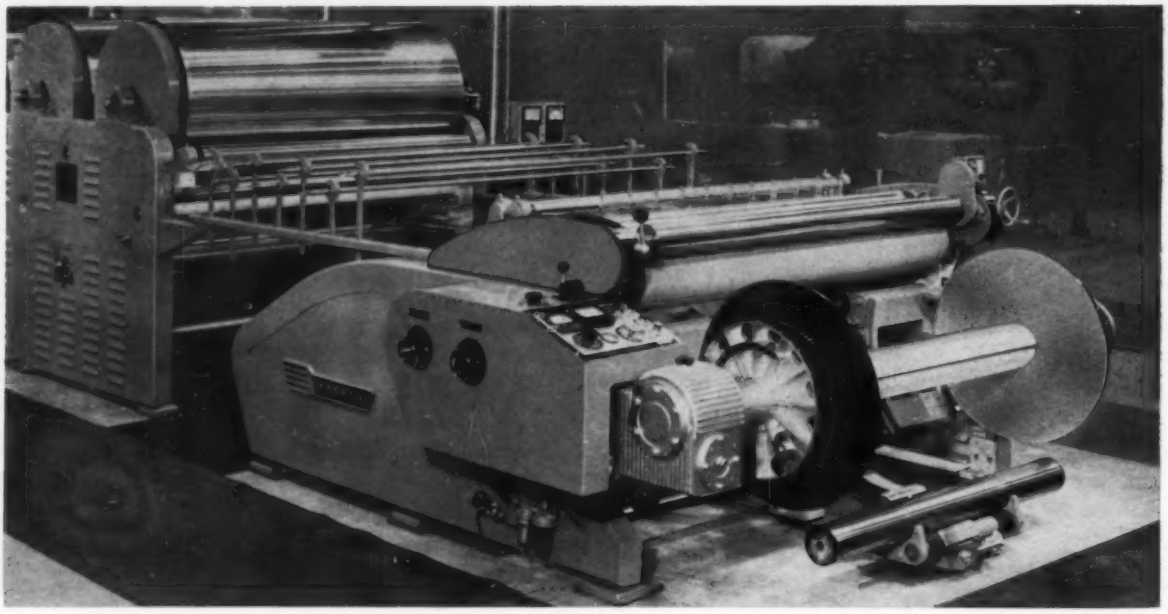

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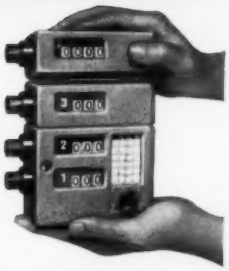

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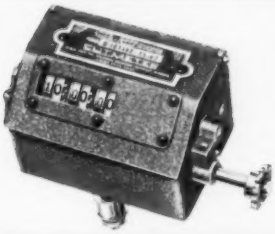

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High Speed Reset Double Wheel Counter runs at speeds up to 6,000 rpm or 8,000 cpm.

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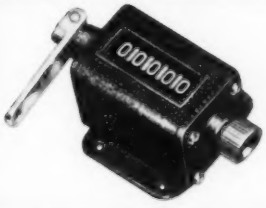

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Used on a wide variety of textile machines. Revolution or ratchet types, for speeds up to 1,000 counts per minute.

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Base mounted or panel mounted. Ruggedly built for speeds up to 1,000 counts per minute. Knob or lock-key reset.

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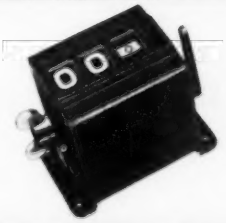

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Used in inspection, doffing or on knitting machines. Small figures show single-stocking count. Large figures indicate dozens of pairs up to 100. Hand, foot, or machine actuated.

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